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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

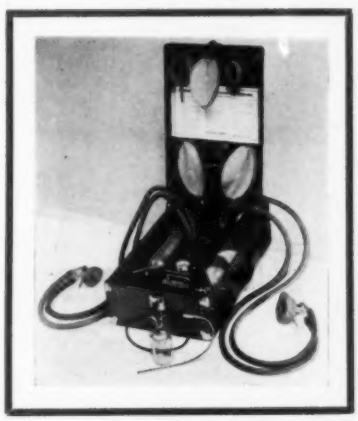
Member

SEPTEMBER, 1941

Vol. 94, No. 9

Air View of Brooklyn Pier Fire
Which Took a Toll of 34 Lives

The Hit of THE SHOW!



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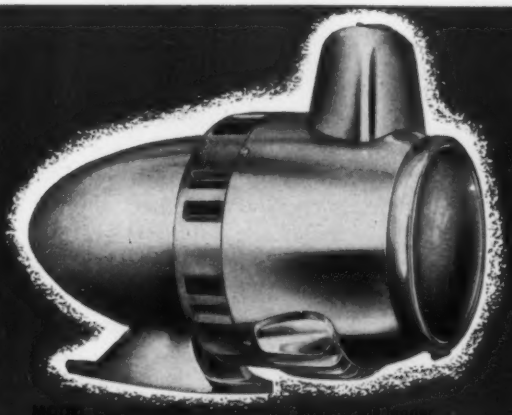

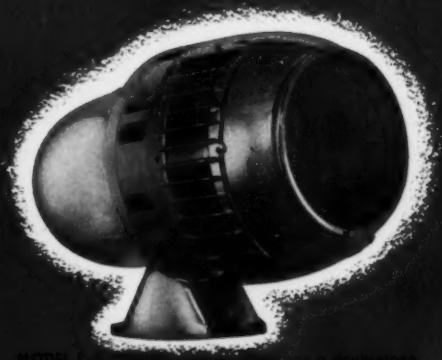

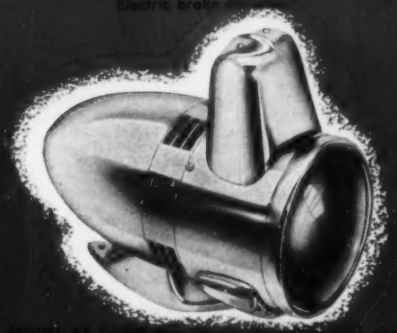

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FIRE ENGINEERING

A Consolidation of Fire and Water Engineering, The Fire Engineer and Fire Protection

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FRED SHEPPERD
Editor
N. N. WOLPERT, *Assistant Editor*

Sitting Pretty!

WAR "alarms and excursions" have caused the fire field to hit a new high—a new high in *technical development* of the profession, in *public interest* in fire protection, and in *business activity* in the field.

● Departments are preparing for whatever emergency may come, and their need for the latest and best available in new equipment and supplies, is backed up by public appreciation of the need—as never before.

● Fortunately, Washington appreciates the basic importance of improved fire protection, and government restrictions with regard to "priorities" on materials required by fire equipment manufacturers are far less stringent than is the case in most fields.

● Your present opportunity to avail yourself of this favorable situation for expansion should not be overlooked.

The Publishers

FIRE ENGINEERING

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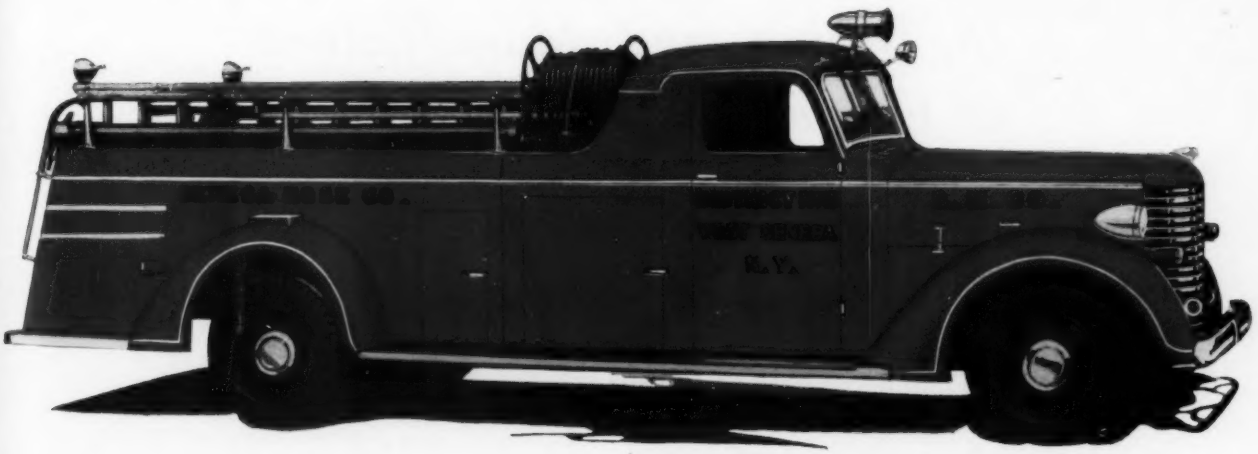

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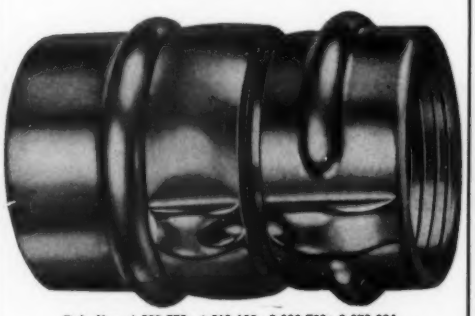

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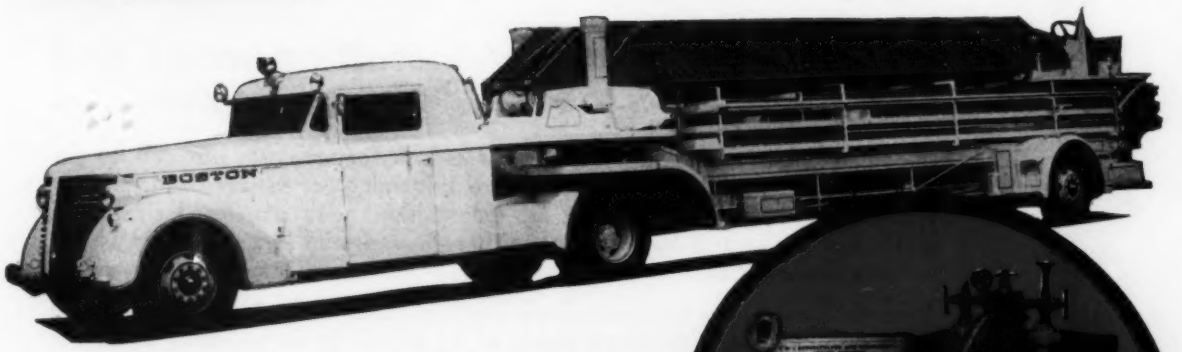
◀ Chief Samuel J. Pope Boston Fire Dept.



Boston's new 125-ft. aerial ladder, which will also carry an E & J Resuscitator as part of its equipment

AN EXTRA MARGIN OF SAFETY

IN the forefront of the general movement to modernize emergency life-saving equipment, the historic and renowned Boston Fire Department, under the distinguished leadership of Commissioner William Arthur Reilly and Chief Samuel J. Pope, has equipped each of its rescue companies with E & J Resuscitators. These medically accepted automatic breathing machines, strategically located throughout the city, are available day and night to the citizens of Boston, providing "an extra margin of safety" from drowning, gas poisoning, smoke inhalation and other asphyxial emergencies.

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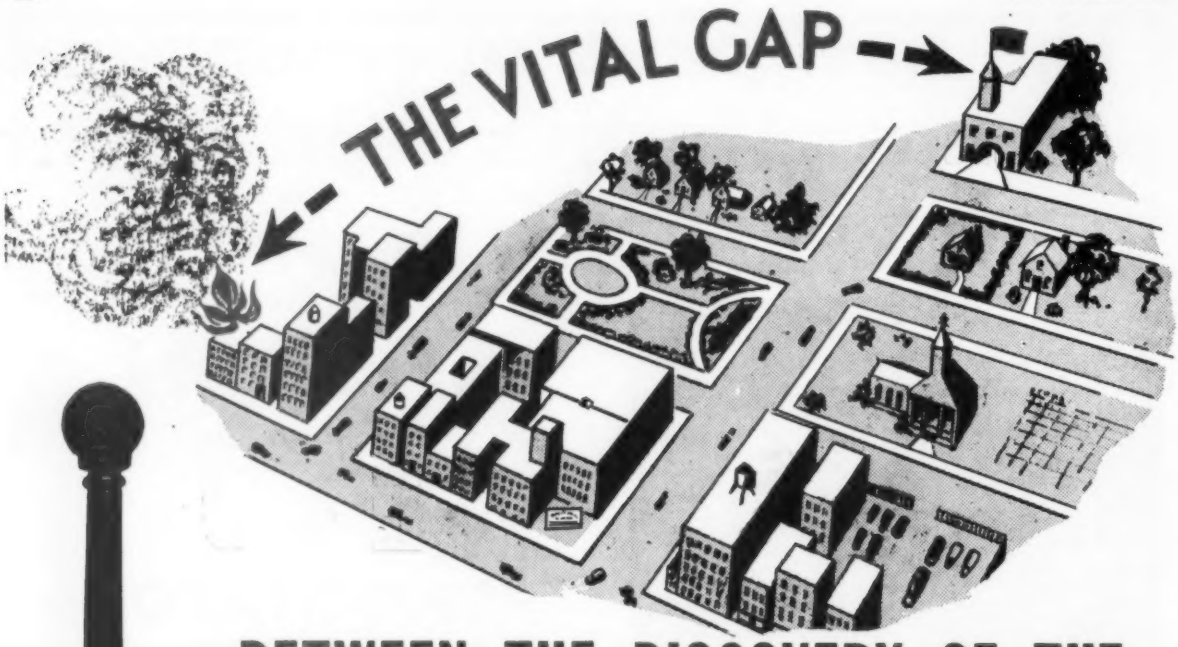


BETWEEN THE DISCOVERY OF THE FIRE AND ARRIVAL OF APPARATUS

Can be shortened by installing more and conspicuously located alarm boxes . . .

Seconds and minutes lost in a fruitless search for an alarm box can be the means of a small, easily-controlled fire becoming a major conflagration. Many fires in the beginning can be extinguished with one small stream of water but unchecked have been known to increase 50 times the original size within a few minutes.

Records show that practically every conflagration, and most fires involving the loss of life—and property losses of $1,000.00 or more—have been the results of delayed alarms.

Gamewell surveys indicate that a "Box-a-Block" in congested, high value districts are the minimum of efficiency. In residential districts they should be no fewer than one every 500 ft.

"There is practically no city where there are enough fire alarm boxes."—U. S. Chamber of Commerce. Check the alarm box situation in your community and, if this statement applies, then ask the cooperation of the Gamewell engineers.

Three-Fold Fire Alarm Box on Type U1000-6 Pedestal

Make the Three-Fold Fire Alarm System your city's "first line of defense against Fire!"

THE GAMEWELL COMPANY

NEWTON UPPER FALLS, MASSACHUSETTS

SEPTEMBER, 1941

FIRE ENGINEERING

VOL. 94. NO. 9

With the Editor

Hazards of Gas Rationing While the likelihood of gasoline rationing seems at the moment to be quite remote, if it should come fire departments must be on the alert to head off hazards brought about by illegal storing of gasoline in residential sections.

Experience in England has shown that the public will resort to foolhardy practices in order to accumulate supplies of gasoline. Quantities of this inflammable liquid in five-gallon kerosene cans, in bottles and even in open containers have been found. In one household, an unused bathtub half filled with gasoline and covered only with gunny sacks was discovered.

Not only on premises, but also in cars, gasoline may be kept in makeshift containers.

Rigid enforcement of ordinances relating to unlicensed storage of volatile inflammables will be the most effective move to keep this serious hazard in check. If there is no legislation on the books covering this matter, now is the time to make a start toward that end.

Radio "Hams" Can Serve Out in Pawhuska, Oklahoma, is located the headquarters of the Smoke Eaters Radio Club, a nation-wide organization of "ham" radio operators connected with the fire service. In case you are not familiar with the term, a "ham" is an amateur radio operator holding a U. S. license. He is authorized to both transmit and receive radio signals within a certain wave length band and at certain hours of the day.

The service which "ham" operators have performed in connection with disasters in recent years is generally recognized. Where earthquakes and tidal waves have occurred the first word to the outside world was ofttimes by these radio fans. They were the means of securing help promptly, and they provided the much needed means of inter-communication between relief organizations and stricken communities.

The Smoke Eaters Radio Club would be of tremendous value to the fire service following air raids. No matter how destructive a blitzkrieg may have been, there will still be plenty of the amateur stations in service to maintain contact between fire fighting forces and other defense and emergency bodies. The Club deserves encouragement and support.

LaGuardia Calls in Fire Line Cards All fire line cards in greater New York have been ordered taken out of circulation by Mayor LaGuardia. They were called in about a month ago.

It is hard to understand the Mayor's action in this matter. New York City is today enrolling auxiliary firemen to build up a fire defense organization to cope with fires from possible air attack. And yet the loyal, helpful thousands of fire buffs and others holding the cards are virtually told that they are not wanted.

It seems to us that these men would have proven a great asset to the Auxiliary Corps. Further, it seems that Mayor LaGuardia made a serious mistake in alienating these staunch boosters of the fire department from that organization.

Fred Sheppard

Brooklyn Pier Destroyed with Heavy Loss of Life

Cigarette Believed to Have Been Cause of Fire; Loss Estimated at Over $2,000,000

At least thirty-four men were killed, seventy-two injured and five remained unaccounted for after Brooklyn's most spectacular water-front fire in years had demolished Pier 27 and iinvolved the freighter Panuco of the New York and Cuba Mail Line on August 18.

Can of Oil "Lets Go" at Fire on Brooklyn Pier.

Most of the 165 men trapped on the freighter and pier dived into the water or ran through the flames which blocked the pier exit.

The vessel was pulled from the pier by tugs after she had caught fire. Although the fire was discovered at 11.40 a.m., the boat was still burning fiercely that night as she lay aground on the flats off Conover Street, Brooklyn.

At 9 o'clock the same evening, Acting Deputy Chief John J. Hurton in charge of the Marine Division of the Police Department, sent a message to Fire Headquarters stating that the Panuco had settled to the bottom and was still burning.

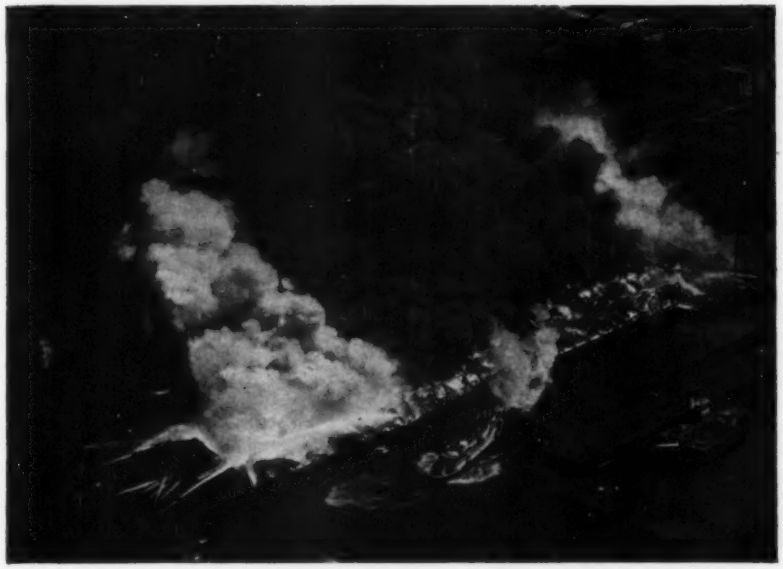
The investigation, started on the scene by District Attorney William O'Dwyer of Brooklyn, indicated that no sabotage had been involved in the fire, although dredging machinery and other materials ready for loading onto the ship were burned. They were being shipped by the United States Navy for construction work on the expansion of the base at Guantanamo Bay, Cuba. They were part of the material on twelve barges and lighters which floated near the ship and which were burned.

The fire started on the pier among bales of sisal, which stood along the south wall close to pier shed doors, one of which was open. The bales had been piled there only fifteen minutes before the fire started. It was believed that one of the workers may have slipped through the open door for a smoke, or that a lighted cigarette might have been flipped through it from one of the lighters tied to the pier.

The Panuco was moored beside the 300-foot pier. Grouped around it were barges and lighters with an assorted cargo ready to be loaded. Six gangs of stevedores, about twenty to the gang, were unloading the cargo from the three open hatches. The cargo consisted of 2,500 tons of baled sisal, which is brought here to be made into rope and mattress stuffing.

According to witnesses, the fire started among the sisal bales fifty feet or so inside the entrance to the pier.

Liner Panuco Swept by Fire Which Started on Pier



Flames and Swirling Smoke Leaped Skywards Along the Entire Length of the 525-Foot Pier 27 on the Brooklyn Side of the East River

It spread with great rapidity, causing a wall of flame to block the exit to the men working on the pier and on the ship. Within a few minutes it had swept down the pier, fed by the loose edges of the bales of sisal. Dull explosions sounded from barrels of oil on the pier. Thick, black smoke, intermingled with flames, was carried over the ship and the open hatches in which the men were working.

Choking and coughing from the smoke, men scrambled out of the hatches, raced across the deck and dropped over the side. Others jumped into the water from the pier. Oil had begun to spread over the water. Within eight minutes the interior of the long shed covering the pier was like a blast furnace.

Five fire alarms were sounded in quick succession. Fire apparatus came from a wide area. Three fireboats, the Abram S. Hewitt, the William J. Gaynor and the Firefighter poured streams on the blazing pier and ship.

The fireboats were augmented by railroad tugs, also equipped with turret nozzles. A pair of two-way radio police cars operated from the shore. Four police patrol boats stood off the pier and the police plane P. D.-1 circled overhead giving directions by radio to the police cars and boats below.

Two tugs got lines onto the burning vessel and towed her out into the harbor. There were still men aboard as the ship, belching smoke and flames, moved away from the pier. It was necessary to keep drenching the bows of the two tugs to keep them from catching fire.

Ambulances were called from Brooklyn hospitals, and Kings County Hospital sent its mobile unit known as the "disaster squad," but they were not enough to care for the injured. Men carried mattresses from a nearby furniture warehouse and spread them in long rows on the sidewalk. There the injured were treated while waiting for ambulances.

Officials of the New York and Cuba Mail Line estimated the damage at well over $2,000,000. They valued the ship at $500,000. The 3,000-ton cargo of the ship was valued at $200 a ton, or $600,000. The same value was placed on another 3,000 tons of cargo on eighteen barges and lighters tied up near the ship, making another $600,000. The balance represented the pier, the lighters and barges, several automobiles and other equipment.

Six Children Die in Fire

Six children, ranging in age from two to eleven years, perished when fire destroyed a farmhouse at Grange, Pa. The fire started from explosion of soot in a coal stove which their father was firing. The children were trapped in an upstairs bedroom.

Fire Engines to Lose Gadgets

O. P. M. officials state that fire engine manufacturers had agreed to curtail their use of scarce materials. Among the items to be eliminated are big brass bells, brass handrails, aluminum trim and radiator grills, aluminum extension ladders and stainless steel tanks. However, there will be no restrictions on red paint.

Resolution Adopted by Communications Board

Chairman James Lawrence Fly of the Defense Communications Board of the Office of Emergency Management, Washington, D. C., has addressed notices to all persons engaged in the wire or radio communications industry, including manufacturing, directing attention to the following resolution adopted by the Board restricting access to communication plants and stations:

WHEREAS on account of the importance to national defense of plants and facilities of the communications industry it appears desirable to restrict access thereto:

BE IT THEREFORE RESOLVED that all persons engaged in the wire or radio communications industry, including manufacturing, be requested to take all measures necessary to ensure that access to premises containing communications equipment or facilities (other than the premises necessarily open to the general public) be restricted to employees, federal, state or local officers acting in their official capacity, and other persons considered necessary by the management in the conduct of its businesss.

BE IT FURTHER RESOLVED that all persons engaged in the wire or radio communications industry, including manufacturing, be requested to exclude representatives of any foreign government, persons, associations or corporations, from access to the premises containing communications equipment or facilities (other than premises necessarily open to the general public), except only upon express permission granted at the direction of the Defense Communications Board.

The above resolution pertains to fire alarm bureaus as well, and fire chiefs should lock up and protect their fire alarm headquarters.

British Fire Officer Visits Charlotte, N. C.

District Officer Dan Ivall of the London Fire Brigade is shown at left with Fire Chief Hendrix Palmer (center) of the Charlotte, N. C., Fire Department, and Battalion Chief Dan Deasy of New York City. They are seated on the running board of one of Charlotte's fire trucks. District Officer Ivall, accompanied by Chief Deasy, is making a whirlwind tour of fire departments in the East to spread the knowledge of the best way to fight war-time fires.

What Preparation for Civil Defense?—Part II

A Symposium

BELOW is a continuation of the discussion on civil defense preparation, Part I of which was published in the August issue of this journal. This group includes cities throughout the country and of varying sizes.

Portsmouth, Va.
W. B. Sykes, Chief

We have a local program in our city. The state is also working to this end. The state has been divided into districts with a Fire Chief in command. The Fire Chief of each city in the district is under his orders.

All hose and pumper connections are being standardized. New apparatus and equipment is being ordered. More watchmen have been added to the warehouse district and the Police Department is patrolling the city water supply station.

The City Manager of Portsmouth is holding the heads of the local departments responsible for their departments. He has given us a lot of cooperation and has approved every requisition sent in by me.

Portland, Ore.
Edward Grenfell, Chief

An arson and sabotage squad has been appointed by the Mayor. This squad include four members of the Police Department and four members of the Fire Departments. Their duty is to inspect all industrial plants, especially those engaged on national defense contracts, and to make recommendations for improvement in protection.

1500 volunteer firemen between the ages of 19 and 40 are in training at fire stations for home defense service.

The local unit is in charge of Ex-Mayor Joseph K. Carson, who was appointed by Mayor LaGuardia.

The Fire Department is represented by the Fire Chief, the Fire Marshal and a battalion chief who serves as coordinator's assistant to Mr. Carson.

Berkeley, Calif.
John S. Eichelberger, Chief

A local defense unit headed by the Mayor and sanctioned by the City Council has just been organized. This Committee has not had a meeting to date. However, the Chief of this Department is an active member in the county defense unit headed by the District Attorney. This has been functioning successfully for the past several months.

The county unit has already undertaken moves to coordinate all county fire department activities, and to have factories and other establishments which are occupied with national defense work inspected.

Springfield, Mass.
H. C. Root, Chief

The civil defense unit in this city is in the process of formation. The Fire Department is cooperating on this matter and the Chief has already been called in conference with the Mayor, air wardens and industrial defense groups.

Williamsport, Pa.
M. E. Clark, Chief

The only civil defense unit that has been formed in this city was organized by the local American Legion unit. Its purpose is to handle air raids and seek out fifth columnists.

I believe that city officials should appoint a competent man to head up a local civil defense unit with the thought in mind of having the fire and police departments and all other defense agencies under one head.

Elyria, Ohio
W. N. Bates, Chief

Fifty citizens of unquestioned loyalty and adaptability to detect subversive activities have been selected to assist the Police and Fire Departments of this city. These citizens and all city employees have identification cards furnished by the city. Steps have also been taken to protect the water works pumping station. The Mayor heads all activities.

Harrisburg, Pa.
Earl W. Swartz, Chief

All members of the paid personnel of the city are attending a school for instructions in the operation of our pumpers, so that in case of an emergency any man can be used to operate them. We are arranging for a similar school for volunteers. The Mayor heads up our defense activities. The Fire Chief has charge of all matters pertaining to the Fire Department.

Lima, Ohio
H. L. Taflinger, Chief

We had a meeting recently of the law enforcement heads of departments of the county. We are not fully organized as yet. The Fire Chief is represented on that committee.

Union City, N. J.
Charles Friedel, Chief

A defense council has been formed in this city by Mayor H. J. Thourot, and consists of the Commissioner of Public Safety, Commissioner of Public Works, Commissioner of Parks, Commissioner of Finance, the Fire and Police Chiefs and the Superintendent of Schools.

All officers and members of the Fire Department are undergoing special training at the present time.

San Antonio, Tex.
C. A. Hart, Chief

On July 9th, Mayor Quin appointed Fire and Police Commissioner P. L. Anderson as Fire Defense Coordinator. He immediately sent out letters to the heads of all city departments requesting names and addresses of their employees who were not subject to draft, to form a fire auxiliary corps. Members of the Fire Department were requested to contact civilian friends and urge them to join. Many names have been turned in and more are being received daily.

As soon as possible the auxiliary fire corps applicants will meet at a central location to receive preliminary instruction. It is planned to divide the city into four districts and to place a district chief in charge of instruction in each district. It is hoped to have two meetings a week, at which time members of the corps will be drilled and given instruction. They will be taught how to fight fire and will do the work of regular firemen, with the exception of operating fire apparatus which will be handled by regular firemen detailed for auxiliary work.

The Fire Chief will have actual charge of the auxiliary corps, and through his assistants in the Fire Department, will direct all their activities. Several pieces of apparatus will be assigned to this work, to be manned by regular firemen. If suitable locations can be found, these pieces of apparatus will be housed outside of present fire stations.

The work has just been started, and much detail remains to be handled. An earnest effort is being made to provide this additional protection and no unnecessary delay is anticipated. Our people are very loyal and cooperative.

Riverside, Calif.
W. J. Taylor, Chief

The Riverside County Board of Supervisors has appointed a Civil Defense Committee which handles general problems throughout the county. They are organizing state guards, veterans organizations and the C.C.C.

Plans are being made for an air raid warning service. Plans for protecting the public health and for fire defense are being formulated.

The Fire Chief is a member of the committee and also serves as Assistant Secretary.

Elmira, N. Y.
Daniel P. Collins, Chief

A fire school for factory workers was held in the Fall of 1940 by the Fire

Department, the Junior and Senior Chambers of Commerce and the American - LaFrance Company. Chemung County veterans have formed a Disaster Relief and Defense Corps, dividing the city into six zones with a captain and assistant for each zone. The work is progressing satisfactorily not alone from the fire angle, but also from the angle of any type of emergency.

The Fire Department also has made arrangements with Elmira Heights, Horseheads, Montour Falls and Wellsburgh, which are nearby villages for mutual aid in case of emergency. In the city, there is a fire station located in five of the six zones established by the disaster corps.

Baltimore, Md.
Howard Travers, Chief

The Fire Department of Baltimore has a tentative and a definite, confidential plan to guard against fire under national defense. The subject of sabotage is a matter that rests with the government and police authorities. It will be available when we are informed to proceed. When inaugurated, it will be headed by the Chief the Fire Department.

Eau Claire, Wis.
Lawrence E. Smith, Chief

We have followed along the lines of state defense program. Special inspection work is done. Openings in the rear of buildings have been closed up. Extra watchmen have been put on duty. Steamer connections have replaced the two horn hydrant and water mains have been extended. A new central fire station is under construction at the present time and a new pumper (a 750-gallon at 150 pounds) has been purchased. All hose has been tested and new hose purchased.

The program is headed by Mayor G. Donald Barnes and myself, as Fire Chief.

Little Rock, Ark.
Joe Carmichael, Chief

We have made a survey of all available fighting equipment in this city so that it might be concentrated in event of an emergency. The Arkansas State Fire College, of which I am a member of the Advisory Committee, has six associate instructors ready to start teaching fire defense upon the completion of the text book. Pertinent subjects will be taught both city and auxiliary firemen. Assistant Chief T. G. Sandusky of this department holds the position of District Fire Coordinator and is workink with the National Defense Council of this state preparing this district to meet any emergency. A state-wide fire defense program was held in this department on August 11.

More financial support for a program of this sort is my only suggestion for improvement.

Auburn, New York
Fred Washburn, Chief

A civil defense committee has been formed, but as yet only preliminary work has been done. The committee is headed by Mayor Carl R. Brister and the Fire Chief is represented on it.

We are planning to purchase a truck which can be converted into an emergency squad wagon for use throughout the district. Efforts are being made to organize and train volunteer fire companies in adjoining towns. We are also working with the Cayuga County Firemen's Defense Committee. Extensive first aid work is being carried on.

We are also trying to organize an auxiliary fire department. It is very hard to arouse interest at this time for people do not realize what is ahead of them.

Hartford, Conn.
Michael T. Keena, Chief

A committee of fourteen was appointed by our Mayor, Thomas J. Spellacy in October, 1940. Norman B. Bertolette, President of the Hartford Gas Company is Chairman.

We have been meeting with members of the State Defense Committee and have been studying up on the different methods. I believe that within a short time we will be ready to install a system.

Fort Worth, Tex.
C. C. Killian, Chief

A civil defense unit is now in the process of organization. Our Mayor is Chairman. The Fire Chief is a member and will head up the fire fighting division and act as coordinator.

Bloomfield, N. J.
Thomas F. Gussner, Chief

Bloomfield has a council for civil defense which is headed up by the Mayor, Harry E. Newell. The heads of the various city department act as chairmen of the various sub-committees.

The Fire Chief attends every meeting that is held by the committee and anything that comes up pertaining to the Fire Department is referred to the Chief for his approval.

At the present time a volunteer auxiliary force is being formed. Each applicant that signs up for fire department training is notified to report to the Fire Chief for his instructions and training.

The local defense council includes the following committees: Coordination and Intelligence, Transportation and Communication, Law and Order, Fire Protection, Water Supply, Streets and Highways, American Red Cross, Health (Medical) and Sanitation, Power and Light, Home Guard, Home Gardening and Historical.

New Britain, Conn.
W. J. Noble, Chief

A local defense council, headed by Councilman Joseph Savonis, has been formed and two companies of home guards have been organized.

Meetings are being held regularly with a view to outlining procedure to follow in the event of emergency. Action has been started in an attempt to secure additional fire fighting equipment.

The Chief of the Fire Department is on the committee. First Deputy Chief Butler has attended the New York City Fire College and the government classes at Edgewood Arsenal, Md., receiving instructions in defense procedure.

Lynchburg, Va.
Marvin K. Evans, Chief

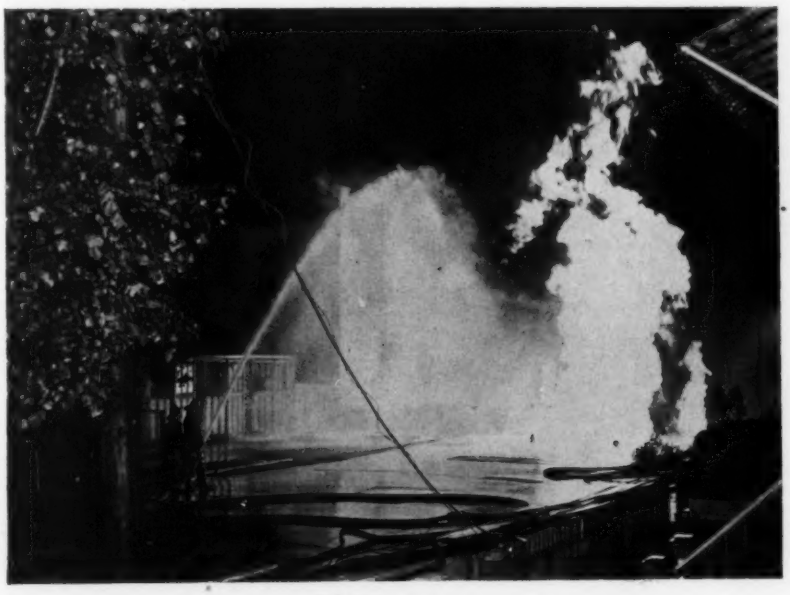
A fire defense committee of representatives of seven surrounding counties, along with leading industries of the city and the public schools has been formed. It is headed by the Superintendent of Public Schools. The Fire Department is also a member of the committee.

At present it is progressing very well.

San Bernardino, Calif.
C. N. Niday, Chief

San Bernardino is affiliated with the California Major Disaster Plan, San Bernardino County Division. It has no local plan.

(*Continued on page* 544)



A Gas Main Fire Not Caused by H. E. Bomb

A cave-in, caused by heavy rains, ruptured a gas main in Brooklyn, N. Y., on August 26. The gas took fire and the Fire Department was called to wet down exposures while the gas was being shut off from the line.

Civil Defense Featured at I. A. F. C. Convention

Large Attendance, Excellent Program and Record Exhibit Make Boston Meeting an Outstanding One

WITH a registration totalling 1,161, the Sixty-Ninth Annual Conference of the International Association of Fire Chiefs, held in Boston, August 19 to 22, topped all attendance records since the conference in Philadelphia in 1928. A total of 427 fire chiefs, 169 associates and 565 guests were registered.

The exhibits, too, were record-breaking, there being sixty-five exhibitors who contracted for 16,278 square feet of floor space.

The technical program was outstanding. Devoted largely to civil defense, it included top-notchers in the way of speakers. Mayor Fiorello H. LaGuardia, of New York City, National Director of Civilian Defense, Major H. R. Brayton, Head Instructor of the Chemical Warfare School at Edgewater Arsenal, E. P. Coffey, Chief, Technical Laboratories, Federal Bureau of Investigation, Washington, D. C.; Fire Marshal W. J. Scott of Toronto, Ont.; David Stroop, Director, Department of Engineering of the American Petroleum Institute, and many other prominent figures contributed to the success of the conference.

Conference Opens

The conference was called to order by President W. H. Palmer of Charlotte, N. C., at 10 a.m. Tuesday at the Hotel Statler. After the invocation, an address of welcome was made by Fire Commissioner William Arthur Reilly of Boston. Response was by Sherward Brockwell, State Fire Marshal of North Carolina.

Mayor LaGuardia Outlines Civil Defense

At this point in the program, Mayor Fiorello H. LaGuardia was introduced by Mayor Maurice J. Tobin. Mayor LaGuardia had flown to Boston especially to attend the conference.

"I need not tell you," said Mr. LaGuardia, "nor review for you the history of the present conflict and its relation to our country. What is more, we have nothing to do with that. We are all just soldiers, taking our part in the great Defense Army. Whatever our opinion may be of the foreign policy of the country, or whatever our view of those of our community may be in that respect, has nothing to do with our responsibility. It is our job as officials of the city government, and your job as officials of fire departments, to be prepared to meet any contingency that might arise out of any situation.

Record attendance—1200 registered.

Largest exhibit of decade.

1941 Convention to Grand Rapids.

Chief Andrew T. Callahan, Harrison, N. J., elected President.

Chief Art Baker, Lewistown, Mont., elected First Vice-Pres.

Chief Samuel J. Pope, Boston, Mass., elected Second Vice-Pres.

Chief Daniel B. Tierney, Arlington, Mass., re-elected Secty.-Treas.

Jay W. Stevens, San Francisco, Cal., re-appointed Exec. Secty.

The Amiable Convention Hosts Fire Commissioner William Arthur Reilly and Chief Samuel J. Pope, of Boston.

"I don't know how much time we will have to prepare. I don't think anybody else knows either, at this moment, but I do know that however much time we will have, it will not be sufficient to prepare for that high degree of efficiency that you and I would want.

"In the first place, the entire technique of warfare has changed and there is no such thing any longer as an isolated zone of war, and the rights of non-combatants—men, women and children not in uniform nor in the armed forces—no longer exist. There were certain rights of non-combatants in undefended cities and other isolated zones under the International Law of Nations up to this war. All that has now been changed. War today is a conflict between warring nations as to their respective capacities for production: the industrial production capacity of each combatant nation; which of the two groups can produce sufficient quantities of the materials, the equipment, machinery and implements of modern warfare to get control of the air; to get control of the sea or for the supremacy of the equipment of war.

"Every city has become the legitimate target of attack and every industrial center, a desirable center of destruction by the opposing forces, and that means that the civilian population, heretofore protected, is constantly exposed to attack and the casualties among the civilian population up to the last conflict on the Eastern Front has been as great, if not greater than the casualties of the fighting forces; and that being so a new branch of the Defense Forces is now necessary.

"The Board of Fire Officials which we had in London reported as many as five hundred and thirty fires breaking out at the same time in the City of London and because of the spread and the necessity of immediate attack on these fires, we find it necessary, based upon the actual experiences of the warring countries, that we must enlarge our fire fighting personnel and greatly increase our fire fighting equipment.

Officers of the International Association of Fire Chiefs

Left to right, Jay W. Stevens, San Francisco, Executive Secretary; Chief W. Hendrix Palmer, Charlotte, N. C., retiring President; Chief Andrew T. Callahan, Harrison, N. J., newly elected President; Chief Samuel J. Pope, Boston, Mass., Second Vice President; Chief Art J. Baker, Lewistown, Mont., First Vice President, and Chief Daniel B. Tierney, Arlington, Mass., Secretary-Treasurer.

"Incendiary bombs are very attractive to the attacking forces. First; because of the possibility of spread and second; if properly placed, they form the lead or the target for following successive waves upon waves of attacking planes to drop their high explosives, shrapnel and land mines.

"I do not expect, and this is based upon the opinion of the Military and Naval experts, that if Britain holds out and our outposts serve the purpose for which they are intended and our air force is put to the prepared program, that we would have long sustained and continued air attacks, such as the English Cities of Suffolk, where they have had hundreds of planes coming in wave after wave, lasting for hours. There seems to be no disagreement, though, that if our Country does become involved, that we will have many short, surprise and sudden attacks. There is a real military justification in this strategy —whether we approve of it or not— the demoralizing effect on the civilian population; its detracting from the plans of operation for defense; the demands for more local protective measures, thereby taking from the normally anticipated production of the defensive and offensive weapons, and, of course, if we are attacked upon both sides, our troubles increase in proportion.

"It is an unusual opportunity to be able to talk to so many men having the responsibility of fire protection and fire fighting throughout the Country at one time. Our first hope and my first formal request on you is to seek to bring about uniformity in the training of your auxiliary forces, as well as uniformity of standard equipment; and uniformity in the technique of the attack on fires caused by war conditions.

"Through your organization and through your personal relations you have the opportunity of exchanging views as well as giving the Regional Director, the State Councilors and the National Officers of Civilian Defense the benefit of your suggestions from time to time.

Nine Corps Areas

"The President has divided the country into nine regional sectors conterminous with the Army Corps Headquarters. The regional headquarters of New England is Boston and New York. Then there is Baltimore, Atlanta, San Antonio, San Francisco, Columbus and Chicago. I have appointed a Director for each of these regions. The reason for that is we must have interstate communications and in many instances the conditions overlap and we can co-ordinate all of these activities through the agencies of the Federal Government. There will be sent to you from time to time, through proper channels manuals, books of instruction and papers on this subject and it is requested that you conform with these as far as possible, fitting them to your particular local conditions and to facilities which are available to you locally.

"Now I suppose in many of your communities you have gone through what some of us have, and that is that committees are formed and they have a meeting and they pass resolutions, and they give a statement to the press and then they have registration. Well as long as I live, I don't want to see another registration. You accumulate thousands and thousands of cards and after you get them you don't know what to do with them. So we've passed that stage now and what we need and what we must have are enrollments—enlistments in your auxiliary forces; men who are ready to report for duty and men who are willing to respond to the call of duty any time of the day

Figures Who Were Much in Evidence at the Boston Convention

Chief W. J. Cawker, Topeka, Kans. (left); Chief Fred P. Higgins, Grand Rapids, Mich. (next year's convention host), and Chief Ray Tiller of Waterloo, Iowa. Center—V. C. Stanley, Pres. and Gen'l Mgr., Gamewell Co., who again royally entertained the visitors. Right—The hard-working Exhibit Committee—Chiefs Wm. H. Hill, Belmont, Mass.; A. J. Cote, Woonsocket, R. I., and J. A. Savage, Valley Falls, R. I.

A Few Outstanding New England Personages at the Boston Convention

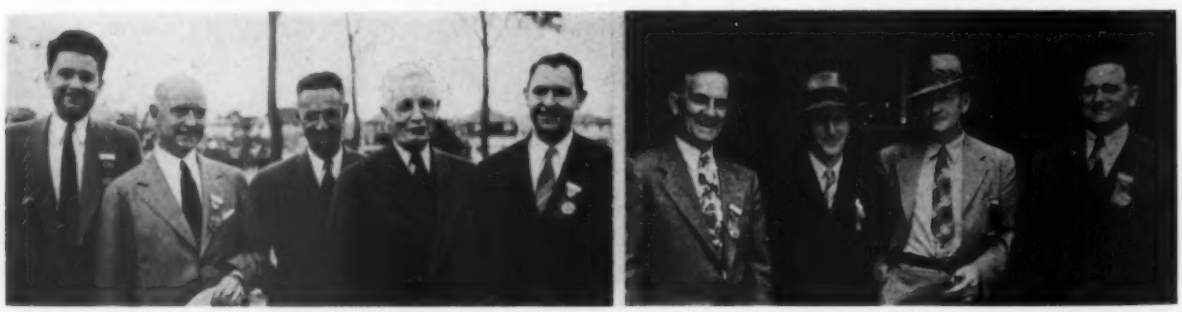
Left—Chief A. H. Koltonski with his daughter "Pat," of Rutland, Vt., next year's meeting place of the N. E. Association of Fire Chiefs. Center—Chief Wm. C. Mahoney, Peabody, Mass., newly elected President of N .E. Assoc. Right—The ever popular Chief and Mrs. Selden R. Allen of Brookline, Mass.

Some of the Southern Delegation at the Boston Convention

Left—District Chief J. H. Kuhn, Chief Irby Klinck with his son, John Klinck, and Lester Brenner of Peter Pirsch & Sons Co., all of Memphis, Tenn. Right—Chief W. E. Jackson of El Paso, Tex.; Chief and Mrs. L. M. Funk of Dallas; Mrs. Jackson, and R. W. Joyner, Eureka Fire Hose Co., Dallas.

At the Boston Convention

Left—Ex-Chief Tracey of Woburn, Mass. (third from left), with his son, Herbert, daughter, Mrs. Callahan, and grand-daughter, Ann. Right—Three fire protection officials of U. S. Steel Co., left to right—J. J. Thuer, F. E. Haywood and R. A. Wisner.



A Few of the Smiling Faces at the Boston Convention

Left—Rockwood Sprinkler Company's representation, left to right—R. H. Whittemore, J. E. McMahon, A. H. Tatro, Andy Duncan and Jim Ryan. Right—Chief P. O. Jache, Johnston, R. I.; Chief C. Pasetti, Westerly, R. I.; Chief Jos. Purtill, Pawoatuck, Conn., and Chief I. S. Black, U. S. Rubber Plant, Providence, R. I.

or night. So you can cut all of the preliminaries and get right to the point of enlistment and the commencement of training.

"According to the experience we have gained from the English Cities it is estimated that you will need about five times the normal amount of your equipment and I'll say about five times the number of your professional members in your fire department for auxiliary forces. I think we can reduce that in this country because of different equipment, better water supplies and perhaps, better technique of fire fighting, to about three times your normal force, but I would not advise going lower than about three times. You need at least three times and these men have to be trained to fight fires and to man the equipment which you will have. When I talk about the auxiliary fire force, I am not referring to the "spot fire fighters" or the "fire watchers." In many instances, the Fire Departments should train the "Spot" fire fighters and the fire watchers who will be assigned to the Air Raid Warden squads and who will be stationed at strategic places; on house tops and roofs and on intersecting streets, as high up as possible and on streets, alleys, industrial plants, hospitals and so on. Their job is to watch for these incendiary bombs and attack them on the spot. The technique of that has been developed to a high state of efficiency; so much so that the English authorities believe that they have the fire hazard well under control. We have a wealth of information, literature and references to take on that spot fire fighting and fire watching and we will see to it that you are well supplied.

Function of Air Wardens

"The men trained by you or the police belong to the Air Raid Warden Service and any report comes through that service. You move out when any particular locality is beyond control or when a building really takes fire.

"As to the equipment, you will need, likewise, for about three to five times your present normal equipment and that depends upon the layout, the spread and the type of buildings in your community.

"There is another phase of your part of the work which is somewhat different than the Air Raid Warden's. As I studied this, it is my belief—although local conditions may differ—that you should have one of your regular, professional, permanent officers in command of each auxiliary company, and, if your force will permit, some of your regular force in your auxiliary company. To do this you may have to take some of your auxiliary men into your regular force. Do it. I believe the results will justify it.

"My request to your Organization is that when you adjourn this convention you provide that you may reconvene on the call of your President if it should be necessary that we meet again when we are facing any immediate danger, and also, if your Organization will provide the National Office of Civilian Defense with a list of Fire Chiefs within each Corps Area, so that, if we have to go into a huddle, we can call you together very quickly; cut a great deal of red-tape and save a great deal of time. You men are accustomed to moving rapidly—mobility. Rapid movement and quick action are your assets, so it is not necessary to talk about that when we are talking to seasoned fire fighters, such as you men are.

"I want you to know that the response throughout the Country has been very encouraging. Many Departments simply say: 'Tell us what to do and we are ready to go.' In many instances the Fire Departments have forged ahead and already have started the training of auxiliary forces. All of this is most encouraging.

"Every time I am called upon to make a report or to state the progress made, I am in a position to say that with our existing Fire Departments we have a great start in the Defense program; that the intelligence, experience and enthusiasm of our Fire Officials have promised a great deal in getting this necessary auxiliary force in hand and the fire fighters throughout the Country in good fighting trim in a very short time. I only hope that we will get the equipment for you and get it to you in time to use for training in the event of an emergency.

"I want to express through my office of Civilian Defense my appreciation, admiration and respect for the Fire Forces throughout the country. You know and I know that the American Fireman has always come up to expectations; always met any emergency and—God forbid—but if our Country should be attacked, the American Fireman will do his job and do it well."

Following the address by Mr. LaGuardia, Fire Commissioner Patrick Walsh of New York, spoke briefly to the conference. He was followed by Chief Samuel J. Pope of Boston, now Second Vice-President of the Association, who welcomed the delegates to Boston and assured them of the fullest cooperation in making the convention a successful one.

The annual Memorial Service was conducted after the preliminaries were completed. A very solemn and impressive memorial service was staged in Grand Ballroom of the Hotel Statler.

At the Fire Chiefs Convention

Chief D. A. Boulden of Winnipeg, Man. (at left), gets a happy welcome from Jim Binford, General Sales Manager, American-LaFrance-Foamite Corp. Right—John F. Scully, President, American Fire Equipment Co., Boston, with his mother.

First Technical Session

On Tuesday afternoon, following the President's message and the reading of reports and other routine business, the technical program was started.

The first topic, "Can the Tremendous Loss of Life in Hotels, Apartment Houses, Lodging Houses and Other Places of Human Habitation Be Reduced" was presented by Sherwood Brockell, State Fire Marshal of Raleigh, N. C.

Chief Brockwell reviewed the work done in North Carolina to eliminate hazards of such buildings, and described instances where life was lost due to improper protection. He made a strong plea for proper fire alarm protection, and particularly the need of extending the alarm system

Some Familiar Faces at the Fire Chiefs Convention

Left—J. H. Green, Gen'l Mgr., Eureka Fire Hose Div., U. S. Rubber Co., New York, with Wm. H. Stephenson, Mgr., J. H. Emerson Co., Cambridge, Mass. Center—Chief S. J. Flores, Shreveport, La.; Fire Alarm Supt. Herbert A. Friede, Washington, D. C.; Chief R. A. Bogan, Baton Rouge, La., and Jas. Flynn, Pres., Potter Mfg. Corp., Chicago. Right—Special Constable Herbert Scott, London, England, with Fire Marshal W. J. Scott of Ontario.

Some Smiling Faces at the Boston Convention

Left—Fred Beardslee, Sales Mgr., Fire Truck Div., Mack Co. (left), with Chief and Mrs. Jas. J. Higgins of Schenectady, N. Y. Center—Chiefs Barney Houston of Cincinnati, Ohio, and Peter Steinkellner of Milwaukee, Wis. Right—Chief Sam Pope of Boston, Mat Schuliem of Chicago, and Deputy Chief McDonough of Boston.

Snapped Here and There at the Fire Chiefs Convention

Left—Chief and Mrs. Calvin Johnson of Knoxville, Tenn. Center—District Chief Chas. Wilderotter, Newark, N. J.; Commissioner of Public Safety John Keenan, of Newark; Rev. John Coleman of Chicago, Ill., and Charles J. Smith of Newark. Right—Chief Chas. McGinley, East Orange, N. J., and Harry Cavanagh, of the A. D. T. Co., New York.

At the I.A.F.C. Convention, Boston

Left to right—Massachusetts State Fire Marshal S. C. Garrity (left) with Fred Shepperd, Editor of FIRE ENGINEERING. Center—The Canadian Delegation—Chief J. W. Churchill of Halifax, Chief Chas. Cunningham of St. John, Chief Geo. Gimblett of Peterborough, H. B. Weed of Toronto, Chief Pare of Montreal, Chief R. Beaulieu of Quebec, and John Tremblay of Montreal. Right—Chief Arthur W. Olsen, Omaha, Nebr., with Geo. J. Richardson, Secretary-Treasurer, International Association of Fire Fighters.

into buildings where the life hazard is severe.

He also suggested that the extension of the water supply as an extinguishing agent into a building is a logical step.

Architects and Fire Protection

The second paper "Is the Architect Fire Conscious?" was prepared by T. Alfred Fleming, Chief of Conservation of the National Board of Fire Underwriters. Due to his inability to be present, the paper was read by Executive Secretary Jay W. Stevens.

Mr. Fleming urged that building codes be taken out of politics. He pointed out the necessity of instructing the students of architecture on fire safety measures in building. Incidentally, Mr. Fleming has spoken before architectural classes in colleges throughout the country, spreading the gospel of proper fire design in modern building.

Church Fire Problems

A paper on "Solving the Church Fire Problem," prepared by Chief N. A. Phelan of Pittsburgh, Pa., was read by Secretary-Treasurer Daniel B. Tierney.

Chief Phelan reviewed the hazards common to church buildings, the methods of protection which might be employed and also outlined the procedure in extinguishing fires once they have extended through church structures. He urged proper protection of spires and steeple structures in churches, due to the fact that many fires enter these structures and are beyond the reach of the fire department. Furthermore, in church buildings there are large open spaces which are concealed and which carry the fire from one end of the structure to the other. Collapse of roof is common in fires involving church buildings.

Method of operating on such fires was outlined by Chief Phelan.

Fear Prevention

The final paper on the morning session was by David Stroop, Director of the Department of Engineering of the American Petroleum Institute of New York. Mr. Stroop spoke on "Fear Prevention." A national program for safeguarding oil storage in national defense emergencies, developed by the petroleum industry, was outlined by Mr. Stroop.

He said that regional committees of the industry already were attacking problems created by potential bombing and sabotage, and are promoting broad principles of protection adaptable to local conditions. No known practical protection exists against a direct hit by an aerial bomb, he said, but oil companies are working to reduce the hazards to a minimum, to confine such damage as far as possible to the actual spot hit.

Cooperation between oil men and fire officials, the best "fear prevention" available, is particularly necessary now because of the possibility of war damage to oil storage, Mr. Stroop asserted. Fear on the part of oil-industry fire protection engineers and of fire chiefs often results in conditions that are unsatisfactory to both. He emphasized that one of the major fears, the belief that oil fires are apt to spread to adjoining properties, is unfounded. Less than one per cent of such fires do damage to the oil-company properties, he reported.

Boston Fire Department Defense Show

On Tuesday evening, the delegates were treated to a very interesting demonstration put on by the Boston Fire Department on Boston Common. Drill evolutions under artificial light, extinguishing operations involving incendiary bombs and other evolutions of interest were shown.

Superintendent of Fire Alarm Herbert Friede of Washington, D. C., Demonstrates His Newly Devised Portable Loud Speaker.

Emergency Signalling Systems

The Wednesday morning session opened with a paper by Herbert A. Friede, Superintendent of Fire Alarms, Washington, D. C., entitled "Automatic Emergency Alarm Signalling Equipment to Supplement Central Station Service in the Event of War." Mr. Friede stated that the Federal Radio Commission at Washington gave equal precedence to fire and police departments in their application for radio frequency. He warned against any reliance on radio communications in the event of air raids, for the U. S. Air Corps would announce shortly that all radio broadcasting stations, including short wave, would be immediately ordered off the air in the event of hostile aircraft approaching within one hundred miles.

Mr. Friede reviewed the various types of emergency alarm signalling equipment which might be used in

Some Outstanding Figures at the Boston Convention

Left—Chiefs C. J. Brennan, San Francisco; W. P. Payne, Spokane, Wash.; J. J. Brennan, Pelham Manor, N. Y.—Center—C. E. Goldsmith, Fire Protection Engineer, Chicago, and Chief J. M. Evans, New Orleans, La. Right—Lieut. Commander J. A. Brownell, Submarine Base, New London, Conn.; Lieut. Commander Geo. Mansfield, Fire Marshal of Boston Naval Area, and Lieut. John Backland, Provost and Fire Marshal, Newport, R. I., Naval Naval Training Station.

Delegates Witness Demonstration of Incendiary Bombs

Some of the demonstrations given at the Boston Convention by Major Brayton of the Chemical Warfare Service (center) showing the handling of various types of bombs. At right, incendiary bomb being extinguished with an Indian Pump extinguisher.

the event of air raids. He also described supplementary fire alarm signalling equipment.

Water Supplies for Incendiary Air Raids

Clinton Inglee, President of the National Water Main Cleaning Company of New York City, spoke on "Water Supplies to Handle Incendiary Air Raids." He reviewed the causes for low pressure of mains, and pointed out how surveys or check-ups of flow would indicate the condition of the main. He also described in detail the methods of restoring water mains to their original capacity by modern methods of cleaning.

His talk was illustrated by lantern slides and the paper proved highly interesting and instructive.

War Emergency Preparation in Canada

William J. Scott, Fire Marshal of Ontario, Toronto, in a paper entitled "War Emergency Preparations in Canada," reviewed defense activities in Canada.

"Fire would undoubtedly be the greatest weapon in any sporadic air raids or attacks on this continent," he said. The ocean is not a barrier to the American-built planes which are daily flying the Atlantic, but it is a barrier to mass or continuous air raids on this continent. To be effective, high explosive bombs must be of a considerable size, so that only a few can be carried in one plane. This limits the number of targets and the possibility of missing these targets makes the use of high explosive bombs even more unlikely. In addition, their area of destruction is limited, for once a bomb has exploded the damage is concluded. On the other hand 2,000 or more incendiary bombs can be carried in a single bombing plane, and fire once started propagates itself and continues to grow and extend its area of destruction.

"It is to meet this possibility of sporadic air raids with incendiary bombs and the possibility of major fires being started by subversive elements from within that the fire departments of this continent are today intensively studying the problems of fire defense. Even though the chances are only 1,000 to 1 that an accidental fire may start in any home, almost everyone carries fire insurance on his home. The possibilities of the war extending to this continent are much greater than the chances that a fire will start in any particular home, and fire defense preparations are our insurance against the damage which might result if we were unprepared.

"Before planning what should be done, it is first necessary to see how are our present fire defenses. In the Ontario Fire Marshal's Office we have just completed a detailed survey of the 57 municipalities in our province which have been designated as vulnerable by the Canadian Department of National Defense. May I just explain that our Department of National Defense, corresponding to the U. S. War Department, has requested war emergency preparations in certain areas only, those areas where damage or destruction would be harmful to the war effort. Out of the nearly 300 fire departments in Ontario, only 57 are in such designated areas. On the other hand, more cities and towns have been designated in Ontario than in all the rest of Canada combined, due to the fact that over 65 per cent of Canada's war industries are located in our province.

"The survey of the designated 57 vulnerable areas, having a population of one and one-half million people, shows that there are 108 pumpers, 61 hose wagons, 45 ladder trucks, 16 aerials and 401,500 feet of fire hose. This is on the face of it a fairly impressive amount of fire apparatus, but on examination it is found that 43 per cent of this apparatus is more than 15 years old which is the generally accepted reliable life of fire apparatus. Even more startling is the fact that a further 31 per cent will reach this age limit in four years from now. Therefore to bring the municipal fire ap-

Snapped Here and There at the Boston Convention

Left—Visitors on a boat trip down the harbor were treated to a spectacular display by Boston's fire boats. Center—Chief Roy Mottesheard, Dearborn, Mich. Right—A happy Indiana delegation with State Fire Marshal Clem Smith (second from left) as ringleader.

paratus in our province up to proper peace-time standards we feel that these brigades need twenty 600 gallon pumpers, six 800 gallon pumpers, four aerials and three ladder trucks as additional equipment, plus 18,000 feet of hose and 243 more permanent firemen.

"The Canadian war emergency preparations are under the jurisdiction of the Federal A. R. P Committee working through the executive direction of the Federal A. R. P. Officer. The Canadian scheme is distributed between the Federal authorities who lay down the general principles and supply needed emergency equipment, the provinces which are responsible for the more detailed organization and training, and the municipalities who recruit and train the volunteer workers. There are two general principles in our Canadian emergency program:

Canadian System a Volunteer One

"First, the Canadian A. R. P. scheme is entirely a volunteer system in which the head committees are composed of federal, provincial or municipal civil servants or officials who have these new war duties added to their existing work without any extra salaries. It is felt that this is most important in preserving the volunteer principle under which all the field workers are recruited. No one is in the scheme in order to make a place where he will get benefit financially for himself, for no new jobs with new salaries are created. Therefore it is entirely voluntary cooperation, because what we are doing in A. R. P. work is not something for others for which we may expect to be paid but simply preparing better to protect ourselves, our families and our homes.

"The second main principle is that as far as possible existing institutions and facilities are adopted to meet the new needs of the war emergency. As an example, in Ontario, as the Provincial Fire Marshal, I have been named the Director of Fire Services in charge of the recommendations for the fire brigades, the emergency training of both the regular brigades and the volunteer workers who are being enrolled, and resposible for the complete organization of fire defense. Similarly, the Deputy Commissioner of the Ontario Provincial Police is the Director of Police Services. In the municipalities, without exception, the local fire chief is the head of the emergency fire defense. To distinguish his new responsibility as having charge of the Auxiliary Firemen who are being recruited to approximately five times the number of the regular brigade, and in charge of the citizen training and education in fire defense, he is called the Controller of Fire Services. Similarly the local police chief is the Controller of Police Services and in charge of the Auxiliary Police and the A. R. P. Wardens. The local Medical Health Officer is Controller of Medical Services, assisted in the training and organization by the Red Cross and by the St. John's Ambulance. The city engineer is usually the man responsible for maintaining the public utility services and the transporting and feeding of the civilian population in the event of evacuation.

What Has Been Accomplished

"To give some examples of what is actually being done in Canada under the A. R. P. scheme, the federal government has already made available a great deal of equipment by way of medical and first aid supplies, gas masks and protective suits, uniforms for Auxiliary Firemen and badges and arm bands for the other workers, stirrup pumps for training purposes, etc. In some municipalities the federal government has aided in acquiring and maintaining interconnected air raid warning sirens. At the present time tenders are being called for a very substantial supply of fire hose and trailer fire pumpers.

"Under the provincial share of the responsibility we in Ontario, for instance, have prepared training textbooks for the municipalities. Every A. R. P. volunteer takes first a Basic Course which summarizes all A. R. P. activities, including first aid, anti-gas and incendiary bomb defenses, all given in a 9-lecture course. Those specializing in the Fire Services are trained under the Ontario C. D. C. Handbook No. 4, "Fire Services Manual" in which we have given a course of training for Auxiliary Firemen as well as pointing out the problems of fire defense facing fire chiefs.

"While much progress has been made, we in Canada do not consider we are by any means fully prepared. The equipment supplied by the federal government, which has responsibility for the general war effort, is so far on the basis of training needs rather than the quantity required to actually handle any emergency. The federal scheme for compensation to volunteers in training or on duty in case of death or injury is still under consideration. As an example of what is still to be done or prepared, in Ontario we need air raid warning siren systems, and preparations to use existing static water supplies and the creation of new water storages. In equipment, as well as bringing up to proper peace-time standards for all these fire brigades, we are recommending the purchase of 386 trailer fire pumpers, nearly 200,000 feet more fire hose, and the supplying of 40,000 stirrup pumps. When we have warning that enemy bombers are over the seacoast, it is much too late then to think of ordering new fire apparatus and equipment.

"In conclusion, may I reiterate

Setting for Memorial Service at I. A. F. C. Conference

that in this war fire defense is in reality the first line of the battle. Those of us who can remember the casualties of the former war think of it as one of men killed and wounded in large numbers. What this war means to the firemen is shown by the fact that in the last year the firemen of London, England, have suffered casualties and wounded nearly equal in proportion to the killed and wounded in the Canadian Army in four and one-half years of the last war. The necessity for fire defense in Britain and the dangers of the fire service is further shown by the fact that from the outset of the war no fireman has been allowed to join the army and now the conscripts for national defense have their choice of joining either the army or the fire services."

National Defense Through Fire Defense

In a paper under the above title, Colonel Clarence Goldsmith, Advisory Fire Protection Engineer, Construction Quartermaster's Division of the War Department, Washington, D. C., reviewed work done by the Quartermaster's Corps in providing cooperation in developing fire defense. He stated that the present war had added the "fifth column" and fire as weapons of attack to the shot and shell of previous wars. Recognizing this fact, there were now 75 experienced fire prevention engineers advising and working for the U. S. War Department at Washington, while many fire chiefs were heading army and navy fire brigades. In the last year the U. S. Army had increased the number of fire pumpers in its camps from 350 to 1200 pumpers, and had purchased one million fire extinguishers and 1,500,000 feet of 2½-inch fire hose. In all cases the fire pumpers and fire hose were purchased with the National Standard Hose Thread, with adapters being acquired where aid might be needed from any nearby municipality having a different hose thread.

Although fire apparatus was on the priority list second only to airplanes, Col. Goldsmith warned the fire chiefs that municipalities were going to face immediately grave difficulties in securing any additional fire apparatus. This was due to the fire defense needs of the armed services and of new defense plants. Rules to be announced within a few days by the Office of Production Management would prohibit the use of chromium plating, brass rails and aluminum grills on fire pumpers, and the total amount of the critical materials of copper, tin, zinc and lead in the standard fire pumpers reduced to only 67 pounds. This meant that the stainless steel shaft and bronze impeller were about all that was left, after the 100 per cent stripping of critical metals. Fire hose was expected hereafter to be available only in the single jacket type and galvanized malleable iron hose couplings instead of brass were under consideration. The manufacture of 2½-gallon soda and acid fire extinguishers was to be prohibited, with galvanized hand water pump tanks being substituted. The scarcity of critical metals for war industries was so great that manufacturers of fire pumpers could no longer remelt their own bronze cuttings and scrappings and sprinkler manufacturers their defective sprinkler heads, but these had to be all returned to the foundry to be re-allocated as to priority.

Colonel Goldsmith stated that preparations for fire defense were more vital and urgent than at any time. Fire Chiefs could not be too careful of their fire apparatus, which should be watched twenty-four hours a day, and perpetually maintained in first class condition. No old equipment which would give even one or two fire streams should be overlooked.

Colonel Goldsmith also dealt briefly with some of the dangers of aerial bomb attack. Parked automobiles presented a high value and a high fire hazard in the event of an incendiary bomb attack, as well as interfering with the work of the fire departments. In the event of a conflagration starting, explosives should not be used as they were ineffective in reducing the amount of flammable material, did not provide effective fire gaps, and aided the spread of the fire by breaking all the windows in the vicinity.

An Outing on Boston's Bay

Following a brief discussion of the revision of the Constitution and By-Laws, which was taken up at the Wednesday afternoon session, the delegates left at 3:00 for a boat trip across Boston harbor to Pemberton Inn at Hull. Here a shore dinner was

Boston Staged a Splendid Banquet for the Chiefs and Their Friends and Families.

served and a floor show provided for the entertainment of the guests.

The delightful trip out and back and the entertainment at Pemberton Inn were furnished through the courtesy of Mr. V. C. Stanley, President of the Gamewell Company.

To many of the delegates from the central part of the country, the trip proved a real novelty. The weather man, too, contributed to the success of the outing by providing a warm, sunny day, which was most welcome after the rain of the preceding two days.

At the Boston Convention

Left—Chief Herbert Root, Springfield, Mass., with Salvage Chief James Keegan of Newark, N. J. Center—A few of the charming ladies, Mrs. Daniel Tierney, Arlington, Mass.; Mrs. Sandy Chapman of Boston; Mrs. Selden R. Allen, Brookline, Mass., and Mrs. W. H. Gardner, Kansas City, Mo. Right—Bill Tighe of Boston with former Deputy Chief Thomas Dougherty of New York.

Fire Fighting in London

The convention was treated to a very interesting talk on the Thusday morning session by Special Constable Herbert Scott, who recently came to America after having served through the blitzkriegs in England since the start of the war.

Mr. Scott, who originally worked with the bomb disposal squad, and subsequently as fire warden, gave an interesting account of some of the things that happened during blitz raids over London.

"Try to imagine," he said, "standing in front of your own town hall in your own city and which ever way you look, the sky is glowing with the light of furnace flames, and tall spires of churches looking like shadows cast by gleaming spires of sparks. And continually, every building around you is flood-lit by the white glare of parachute flares, or flashes from explosive incendiaries, making a noise like giant crackers. Imagine all this, with the earth incessantly rocking on waves of sound, the pulsing drone of great bombing planes, the cracking roar of high explosives and the interminable thunder of guns, flung back to the earth from the sky. This would be your impression of a blitz attack."

"As you made your way to shop or office next morning," he added, "you picked your way through streets covered with hose pipes and running water, past shells of buildings with smoke and steam belching from gaping windows. All this is not a wild dream but stark reality. This was London's experience from the time when darkness fell, to dawn, on April 16, 1941. It was the greatest raid of all times, a night that will go down in the history of England. Through all the night, amid all this, the policemen, rescue parties, the firemen, wardens, the nurses, the food vans, all the staunch army of the city's civil defense worked on."

Mr. Scott reviewed the methods employed in handling incendiary bomb attacks, the methods of extinguishing incendiary bomb fires, and many other features of civilian defense in England.

Arson and Sabotage

"Protecting the Industrial Plant Against Fire and Sabotage" was the title of a talk by E. P. Coffey, Chief, Technical Laboratory, Federal Bureau of Investigation, Washington, D. C.

Mr. Coffey gave a very complete and detailed review of the methods of saboteurs and described how arson was employed by them. He gave instructions for the protection of industrial plants and in detecting and apprehending incendiaries.

Incendiary Bombs and Their Control

The final paper of the technical part of the program, presented Thursday afternoon, was on incendiary bombs and their control by Major H. R. Brayton, Chemical Warfare School, Edgewood Arsenal, Md.

"In talking about incendiaries," stated Major Brayton, "one of the first things we should consider is the enemy's viewpoint in an attack. I expect you have heard the story about the village idiot. You know, they lost a horse somewhere in the neighborhood, and everybody in town started looking all over the country for the horse but nobody could find it. Finally, several hours later, in walked the village idiot leading the horse. Somebody asked him, 'How did you find the horse, John?' 'Well,' he said, 'I just sat down and thought. I just figured if I was a horse, where would I go? And I went there, and there he was.'

"In other words, what you must consider is this: What is the enemy going to do? What do we have in our local communities that might be suitable targets for enemy attack? You must make advance preparation to meet such an attack. Let us sum up some of the requirements for a successful incendiary attack by an enemy.

"One: A target must have some tactical value; in other words, it must be important from a military or a morale standpoint.

"Two: The target must be within striking distance of the weapon used to disperse the incendiaries. Back in 1917 and 1918, when we used to throw a grenade, you knew how far you could throw one. You couldn't start a fire at any great distance. A little later rifle grenades were used. There are definite ranges for that. And we had our artillery weapons firing incendiaries such as white phosphorus.

"The most effective means of dispensing incendiaries today is by plane, which necessitates computing the range of a plane. At the present time, it looks as though the sky is the limit of flight.

"Three: The targets must be combustible. In other words, it would be very foolish for an enemy plane to drop bombs on an open field. They would not start any fires. It would not be of any great importance to drop a number of these small magnesium bombs on concrete roofs previously located by reconnaissance.

"Four: The incendiary itself must be easily ignited.

"Five: The incendiary should burn with a high enough intensity to ignite the combustible material around it. In other words, it must get hot enough to set fire to things.

"Six: The incendiary should burn a long enough period to make certain the material with which it comes in contact is set on fire.

"Seven: The incendiary, to be effective, should be difficult to extinguish.

"Eight: The incendiary should be light enough so that it can be broadcast wholesale, starting numerous fires. It is more effective to use a

large number of small bombs rather than one large one.

"Nine: The incendiary should be cheap enough to permit its use in large quantities, and it should be easily procured.

"I have just mentioned that the incendiary should be easily ignited. There are several that will ignite easily. Phosphorus will ignite spontaneously. Thermite can be set off very readily with a firing charge. Our magnesium unit can be ignited fairly easy. The oil incendiary is the most difficult to ignite. The problem with oil is to have enough of a highly volatile liquid in the oil, so that it will have a low flash point and will catch fire and burn readily. Some of these bombs were examined abroad and found to contain nothing but crank case oil. The reason they did not ignite was because there was not enough of the low flash point liquid in them to ignite the body of heavier oil.

"Concerning point number five, an incendiary should burn with high intensity. You will find tables showing total amount of heat given out; also figures on the intensity of the flame that you get during the burning. Don't confuse these two terms. Oil, for example, produces practically twice as much total heat as magnesium, surprising as it may seem; at the same time, your magnesium has a higher burning temperature. We are principally interested in getting a high intensity to start and carry on the fire so it will give off a considerable quantity of heat for a long time.

"Another point, of course, is lightness of weight which is important in aerial dispersion. We might remember that the thermite bomb is about four times as heavy as the magnesium bomb, size for size. That means, then, that a plane which could carry a thousand magnesium bombs, could carry only one-fourth as many thermite bombs. In addition to that problem there is the question of shape and container.

"With the German type of bomb, an arrangement is made whereby about 10 to 20 are carried in a case. I don't know exactly what system is used to pull the pin; however, it is the same idea as our hand grenade in which we pulled the pin and then threw it. Probably there is a device which pulls 10 or 20 of the pins simultaneously, and then the bombs are all dumped.

"The important thing about this bomb is that the entire bomb burns. There is no waste except for the tail which, being of steel and iron, will not burn. This is an efficient type of incendiary, because there is very little waste.

"In considering a magnesium fire, let's look into the situation as though you were inspecting a new plant that was located in your city, and you had certain hazards you had to check up on.

"There are certain hazards in connection with magnesium just like a new plant. After you had found out what the hazards are, you formulate your own plan for handling the particular situation. I think we are safe in assuming that the method Great Britain is using to handle incendiary fires is not necessarily the only way. That is the way they have found to be most successful in their situation. There may be conditions here or we may have variations in these bombs which will necessitate some changes. So let us utilize our common sense, take advantage of English experience, but attempt to improve upon their methods.

"Let us consider the various means of extinguishment that we might try on magnesium.

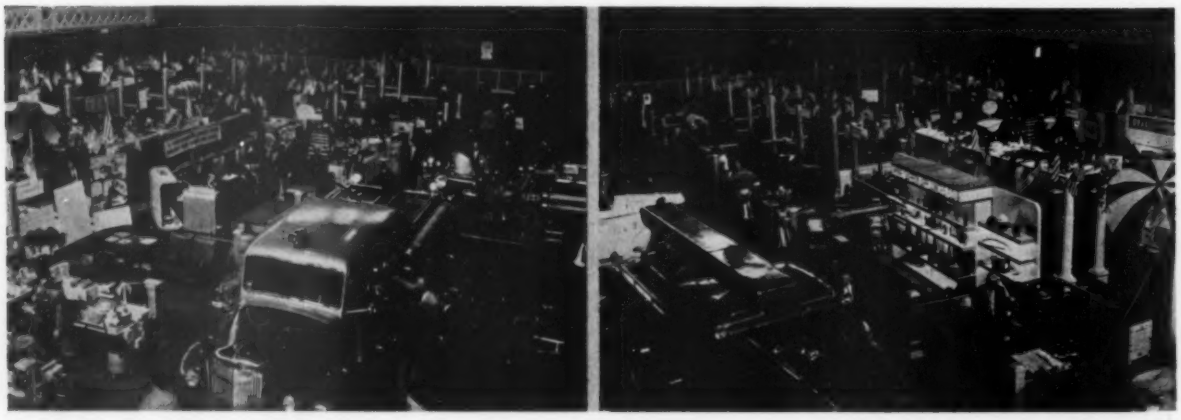
"If we use a spray of water or a fog, as we sometimes call it, and put it over the surface, we are not allowing penetration of water into the bomb, but merely contacting the outside surface. The action is taking place from the outside only, and we are causing action to continue. Incidentally, notice what we are doing. Magnesium is picking oxygen out of the air; that's one source of burning. Magnesium is picking oxygen out of water; that's another source of burning. The ordinary bomb would burn from 10 to 20 minutes, depending on the surface on which it is burning. If it is burning on a sheet of iron, it will burn as long as 20 minutes. If it is burning on wooden or combustible material out of which it can extract moisture, vapors, and fumes, it may burn out in 10 minutes. But whatever time it takes, say 10 or 20 minutes, let's remember that when you put water on the burning metal it cuts down the burning time and by doubling the amount of oxygen which the magnesium has available will, therefore, speed up the action."

Major Brayton then described the action of various types of extinguishers on incendiary bombs and pointed out features of different types of extinguishers which would bar their use in connection with fires in magnesium and thermite bomb fires.

He also described phosphorus, oil and other types of bombs used to some extent in the present war.

Demonstration of Extinguishing Bomb Fires

Following the meeting, Major Brayton, with aides from the Chemical Warfare School at Edgewood Ar-



Two Views of the Fire Equipment Exhibits at Mechanics Hall, Boston. It Was One of the Biggest Convention Displays in Years.

senal, gave a very thorough demonstration of the various types of incendiary bombs in a cleared area on Boston Common. Magnesium, thermite, oil, solidified gasoline and phosphorus bombs were fired. The latter proved a spectacular demonstration. Although warned plainly by Major Brayton to retreat to a safe distance, some of the spectators insisted upon remaining, and when the bomb let go, a few of them had their clothes spotted with burning phosphorus. Outside of minor burns, caused by trying to brush the burning phosphorus off their clothes, no casualties resulted.

As it was the first time that many of the fire chiefs had seen the various types of bombs fired, and methods of extinguishing demonstrated, this feature of the program proved particularly instructive and interesting.

Final Session

The Friday morning session started with a brief talk by Constable Scott, who had spoken previously. He reminded the members that the accident on the preceding day on Boston Common, when the phosphorus bomb spread to some of the spectators, was in no way the fault of Major Brayton who had repeatedly ordered spectators to the rear, but at the same time it is an example of what one might expect in a war, only many times magnified.

Following the talk by Constable Scott, Superintendent Charles A. Wheeler, of the Connecticut State Police, was introduced. We counselled cooperation between police, and the fire forces, and told an interesting story of a young man landing in the Bridgeport airport field who calmly announced that he had left the day before from England and was over to get a plane and fly it back to England. Mr. Wheeler eulogized former Chief Burns, deceased, of Bridgeport.

Attendance and Receipts

The Secretary reported on attendance, and said that 1161 had registered and the sum of $2135 was received from registrations. There were 427 chiefs, 169 associates, and 565 guests registered.

Following this came the report of the Exhibit Committee Chairman, Chief William H. Hill. It was stated that in point of exhibitors this was the largest display the Association had ever known. There were 65 exhibitors, the value of the exhibits being $185,835. The exhibits occupied 16,278 square feet of floor space. The amount received from exhibitors was $3,867.50, of which it was reported $3300 to $3400 would be net profit.

1942 Convention to Grand Rapids, Mich.

When it came to the selection of the place for the 1942 meeting and convention, there was at first little sign of interest and Chief Selden Allen proposed that the selection be left to the Board of Directors. However, Chief Traeger of Minneapolis said that if nobody else wanted it, Minneapolis would like it.

At this time the Secretary presented a number of communications from the Mayor of Grand Rapids, Mich., organizations and other officials of this city. Discussing Grand Rapids, and the invitation from the Mayor and Convention Bureau, question was asked if the Chief of Grand Rapids was in the room. He was, and he conveyed his personal invitation to hold the convention there and assured the members they would be well taken care of.

The matter was put to a vote and carried in favor of holding the 1942 convention in Grand Rapids, Mich.

Several resolutions were then introduced and adopted. The first recommended that where a local auxiliary fire department was formed, the chief of the fire department be in charge of the auxiliary.

Another resolution extended the appreciation of the Association to Major Brayton for his major contribution to the success of the convention.

An important resolution, introduced by Chief Bogan of Baton Rouge, La., and unanimously adopted, called for the petitioning of the government to make any tampering with the fire alarm systems, or the sending of false alarms, a federal offense.

A final resolution, also adopted, expressed the Association's appreciation to the City of Boston for its hospitality.

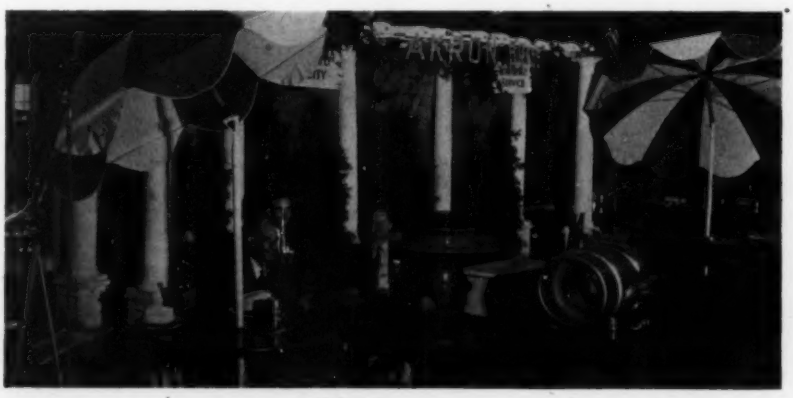
Election of Officers

The election of officers went through without contest. First Vice-President W. R. Williams, former Chief at Fresno, Calif., was advanced to the Presidency, but tendered his resignation, which was accepted. Thereupon, Second Vice-President Andrew T. Callahan, was elected President. Chief Art Baker, of Lewistown, Mont., was made First Vice-President, and Chief Samuel J. Pope, of Boston, was chosen Second Vice-President. Chief Daniel B. Tierney, of Arlington, Mass., was reelected Secretary-Treasurer.

The Annual Banquet

The annual banquet this year was outstanding. One of the largest groups in recent years was entertained by the City of Boston at the Hotel Statler. In all, approximately fifteen hundred guests were present. Governor Saltonstall of Massachusetts; Mayor Maurice Tobin of Boston; Fire Commissioner William Arthur Reilly; State Fire Marshal Steve Garrity; Wilbury E. Mallalieu, General Manager, National Board of Fire Underwriters; and President W. H. Palmer were the principal speakers.

Among the presentations at the banquet were a metal membership card to former President Hugo R. Delfs, the presentation being made by the Pacific Coast Association of Fire Chiefs; a very beautiful scroll to former Secretary-Treasurer James J. Mucahey, in recognition of his long and faithful service to the Association; a fire department badge to Governor Saltonstall and a diamond ring to Chief Pope, the gift of the delegates in appreciation of his fine job as host to the conference.



Unusually Attractive Exhibit of the Akron Brass Company at the Boston Convention
In the picture, left to right, are J. H. Grant, of Norfolk, Va.; J. M. Love, General Manager, and S. G. Langher, President of the Akron Brass Co.

Active Members Who Registered at I. A. F. C. Conference

L. B. Hill, Chief, Bessemer, Ala.
E. L. Matthews, Chief, Tuscaloosa, Ala.
M. J. Brun, Chief, Ft. Smith, Ark.
Joe Carmichael, Chief, Little Rock, Ark.
W. E. Wheat, Chief, Monticello, Ark.
Harold G. Kraus, Chief, Ft. Bragg, Calif.
W. G. Lutkey, Chief, Oakland, Cal.
M. J. Dunphy, Chief, Sacramento, Cal.
Edward Lamb, Ex-Chief, San Francisco, Cal.
Charles J. Breman, Chief, San Francisco, Cal.
Jay W. Stevens, Ex-Chief, San Francisco, Cal.
Wm. J. Mohr, Chief, Santa Monica, Cal.
Warren L. King, Chief, Santa Paula, Cal.
Fred A. Taylor, Chief, Colorado Springs, Colo.
John Healy, Chief, Denver, Colo.
Martin J. Hayden, Chief, Bridgeport, Conn.
George C. Graham, Chief, Bristol, Conn.
J. F. Meunier, Chief, E. Hartford, Conn.
Stuart M. Potter, Chief, Greenwich, Conn.
H. P. White, Chief, Groton, Conn.
Michael T. Keena, Chief, Hartford, Conn.
M. W. Lawton, Chief, Middletown, Conn.
F. A. Mabbett, Chief, Mystic, Conn.
W. J. Noble, Chief, New Britain, Conn.
John S. Pachl, Chief, New Haven, Conn.
Lawrence E. Beif, Ex-Chief, New Haven, Conn.
Paul P. Heins, Chief, New Haven, Conn.
Charles A. Volk, Chief, Norwalk, Conn.
Henry R. Taft, Ex-Chief, Norwich, Conn.
John Joseph Sanger, Chief, Old Greenwich, Conn.
F. B. Gisborne, Ex-Chief, Old Greenwich, Conn.
Joseph Purtill, Chief, Pawcatuck, Conn.
Albert B. Foy, Chief, So. Manchester, Conn.
Wesley W. Kantack, Chief, So. Meriden, Conn.
Edwin R. Burr, Chief, Bridgeport, Conn.
John J. Caine, Chief, Wallingford, Conn.
Thomas F. Cavanaugh, Chief, Waterbury, Conn.
T. H. Donnelly, Chief, West Hartford, Conn.
Robert L. Maurer, Chief, Westport, Conn.
Harry E. Hasson, Ind. Chief, Wilmington, Del.
Wm. J. Lutz, Chief, Wilmington, Del.
R. N. Hershey, Chief, Lake Worth, Fla.
H. B. Chase, Chief, Miami, Fla.
M. G. Bennett, Chief, Orlando, Fla.
Steve Edwards, Chief, Quincy, Fla.
Walter Sache, Chief, Winter Park, Fla.
D. W. Brosnan, Chief, Albany, Ga.
C. C. Styron, Chief, Atlanta, Ga.
T. Walton Scott, Chief, Augusta, Ga.
Max Wiggins, Chief, East Point, Ga.
T. W. McKinney, Chief, Rome, Ga.
E. J. Ryan, Chief, Aurora, Ill.
M. J. Corrigan, Chief and Commissioner, Chicago, Ill.
Frank C. McAuliffe, Chief of Patrols, Chicago, Ill.
Charles Muirhead, Chief, Danville, Ill.
A. N. Hofstetter, Chief, Evanston, Ill.
Albert Luedeke, Chief, Freeport, Ill.
Thomas D. Blake, Chief, Rockford, Ill.
August G. Schmidt, Chief, Rock Island, Ill.
L. W. Graves, Chief, Rockton, Ill.
G. M. Houren, Chief, Winnetka, Ill.
Thomas J. Finley, Chief, East Chicago, Ind.
Robert F. McGuire, Chief, Gary, Ind.
Fred C. Kennedy, Chief, Indianapolis, Ind.
Robt. Hoover, Chief, Kokomo, Ind.
A. E. Homann, Chief, LaPorte, Ind.
Archie McCabe, Chief, Muncie, Ind.
H. E. Williams, Chief, Richmond, Ind.
Ralph C. Dinkel, Chief, Terre Haute, Ind.
L. R. Morris, Chief, Ames, Iowa
R. P. Collatt, Chief, Burlington, Iowa
E. J. Kohout, Chief, Cedar Rapids, Iowa
Chas. L. Slade, Chief, Des Moines, Iowa
S. D. Russell, Chief, Ottumwa, Iowa
Chas. B. Kuhl, Chief, Sioux City, Iowa
Ray Tiller, Chief, Waterloo, Iowa
Olander Lind, Chief, Kansas City, Kans.
Paul Ingels, Chief, Lawrence, Kansas
Wm. J. Cawker, Chief, Topeka, Kansas
P. M. Wendel, Chief, Wichita, Kansas
C. J. Henry, Chief, Lexington, Ky.
E. A. McHugh, Chief, Louisville, Ky.
Robert A. Bogan, Chief, Baton Rouge, La.
E. G. Smith, Chief, Bogalusa, La.
J. W. Miles, Chief, Crowley, La.
Frank J. Roddy, Chief, Monroe, La.
John M. Evans, Chief, New Orleans, La.
Wm. Alex Robertson, Chief, Opelousas, La.
Fernand Privat, Chief, Rayne, La.
S. J. Flores, Chief, Shreveport, La.
Richard Frates, Chief, Bath, Me.
Cecil L. Fullerton, Chief, Bath, Me.
Scott Morse, Ex-Chief, Bath, Me.
James H. Butler, Chief, Berwick, Me.
Allen F. Payson, Chief, Camden, Me.
Wm. H. Clifford, Chief, Cape Elizabeth, Me.
Geo. M. Dinsmore, Chief, Hallowell, Me.
Guy F. Smith, Chief, Houlton, Me.
G. W. King, Chief, Kings Mountain, Me.
Edward E. Peters, Chief, Orono, Me.
Oliver T. Sanborn, Chief, Portland, Me.
J. W. Randietta, Chief, Richmond, Me.
S. A. Mercier, Chief, Rumford, Me.
Curtis Allen, Chief, Sanford, Me.
Stanley G. Turner, Chief, Springvale, Me.
S. A. Herman, Chief, Westbrook, Me.
Edward A. Reny, Chief, Westbrook, Me.
W. B. Lewis, Chief, Wiscasset, Me.
J. A. Fisher, Chief, Annapolis, Md.
Howard Travers, Chief, Baltimore, Md.
Irving W. Johnson, Chief, Takoma Park, Md.
Daniel B. Tierney, Chief, Arlington, Mass.
Wm. H. Hill, Chief, Belmont, Mass.
F. Hildreth Parker, Chief, Belmont, Mass.
John Creasy, Chief, Beverly, Mass.
Ernest N. Bartlett, Chief, Billerica, Mass.
Samuel J. Pope, Chief, Boston, Mass.
William C. White, Ex-Chief, Boston, Mass.
William F. Bowers, Chief Protective Dept., Boston, Mass.
Frank F. Dickinson, Chief, Brockton, Mass.
Seiden R. Allen, Chief, Brookline, Mass.
J. Thomas Wallace, Chief, Bourne, Mass.
Herman E. Gutheim, Chief, Cambridge, Mass.
William G. Curtis, Chief, Canton, Mass.
William Powers, Chief, Clinton, Mass.
Gilbert S. Tower, Chief, Cohasset, Mass.
John B. Hartnett, Chief, Dedham, Mass.
Cornelius P. Dailey, Chief, Easton, Mass.
James J. Evans, Chief, Everett, Mass.
Ray D. Wells, Chief, Falmouth, Mass.
Michael Shea, Chief, Fitchburg, Mass.
Edwin E. Truax, Chief, Foxboro, Mass.
LeRoy Trovell, Chief, Framingham, Mass.
Robert Tappen, Chief, Gardner, Mass.
Thomas E. Fallon, Chief, Gardner, Mass.
Homer R. Marchant, Chief, Gloucester, Mass.
John P. Tracy, Chief, Great Barrington, Mass.
Emery Perry, Chief, Harvard, Mass.
Benjamin L. Chase, Chief Haverhill, Mass.
Joseph E. Scanlon, Chief, Lynn, Mass.
Patrick J. Hurley, Ex-Chief, Holyoke, Mass.
Oscar R. Hutchinson, Chief, Lenox, Mass.
Edward W. Taylor, Chief, Lexington, Mass.
Charles F. Stackpole, Chief, Lowell, Mass.
Robert G. Breck, Chief, Longmeadow, Mass.
Joseph E. Scanlan, Chief, Lynn, Mass.
William J. Dooling, Ex-Chief, Malden, Mass.
John S. Adams, Chief, Marblehead, Mass.
Samuel Daoust, Chief, Marlboro, Mass.
Thomas A. Qualey, Chief, Medford, Mass.
Fred Ryder, Chief, Middleboro, Mass.
John F. Adams, Chief, Milford, Mass.
William D. Horne, Chief, Millbury, Mass.
James F. Hanna, Chief, Milton, Mass.
Richard M. Salamone, Chief, Needham, Mass.
Harold J. Conron, Chief, North Reading, Mass.
Alonzo N. Earle, Chief, Norwood, Mass.
Geo. V. Clapp, Chief, Paxton, Mass.
Wm. C. Mahoney, Chief, Peabody, Mass.
Everett B. Wood, Chief, Plymouth, Mass.
Thomas F. Burke, Chief, Pittsfield, Mass.
Hugh L. Eames, Chief, Reading, Mass.
Walter E. Alburn, Chief, Rehoboth, Mass.
Arthur L. Flynn, Chief, Salem, Mass.
William R. Salaman, Chief, Saugus, Mass.
O. J. Meunier, Chief, Southbridge, Mass.
Charles Normanden, Chief Amer. Optical Co., Southbridge, Mass.
John W. Boland, Chief, Southboro, Mass.
Herbert Root, Chief, Springfield, Mass.
Frederick H. Pye, Chief, Stoughton, Mass.
C. H. Lampard, Chief, Swampscott, Mass.
Edward F. Gorey, Chief, Taunton, Mass.
Richard A. Magee, Chief, Truro, Mass.
Wilfred J. Tancrell, Chief, Uxbridge, Mass.
Chester L. Donnell, Chief, Walpole, Mass.
Geo. L. Johnson, Ex-Chief, Waltham, Mass.
Theodore Deslauriers, Chief, Ware, Mass.
John W. O'Hearn, Chief, Watertown, Mass.
Arthur Belmore, Chief, Webster, Mass.
William C. Blois, Chief, Westboro, Mass.
Stanley E. Gifford, Chief, Westport, Mass.
F. H. Sibley, Chief, West Springfield, Mass.
Edward L. Bourne, Chief, West Bridgewater, Mass.
Thomas H. Slaman, Chief, Wellesley, Mass.
Timothy G. McCarthy, Chief, Weymouth, Mass.
Floyd William, Chief, Winthrop, Mass.
Frank Tracy, Ex-Chief, Woburn, Mass.
Carl J. Klessling, Chief, Worcester, Mass.
R. E. Mottesheard, Chief, Dearborn, Mich.
Walter F. Israel, Chief, Detroit, Mich.
A. M. Jaeger, Chief, Ecorse, Mich.
Don M. Dickerson, Chief, Eloise, Mich.
Norman Pritchard, Chief, Ferndale, Mich.
R. M. Hitchings, Chief, Flint, Mich.
Henry Hoebeke, Chief, Grand Haven, Mich.
F. P. Higgins, Chief, Grand Rapids, Mich.
Ledger Chauvin, Chief, Grosse Pointe, Mich.
Hugo R. Delfs, Ex-Chief, Lansing, Mich.
Chris Smith, Chief, Muskegon, Mich.
Frank W. Bender, Jr., Chief, Saginaw, Mich.
Frank F. Trombley, Chief, Sault Ste. Marie, Mich.
Gus Anselm, Chief, Wyandotte, Mich.
Louis Turk, Chief, Chisholm, Minn.
C. D. Goldsmith, Chief, Duluth, Minn.
J. H. MacWhirter, Chief, Eveleth, Minn.
Napoleon Ayotte, Chief, Hibbing, Minn.
Earl A. Traeger, Chief, Minneapolis, Minn.
John T. Lynch, Chief, Kansas City, Mo.
W. H. Gardner, Chief Fire Patrol, Kansas City, Mo.
J. W. Jackson, Chief, Marceline, Mo.
Leo G. Urbanski, Chief, St. Joseph, Mo.
Thomas J. Smith, Chief, Camp Shelby, Miss.
L. F. McDonald, Chief, Jackson, Miss.
Sam Bellipanni, Chief, McComb, Miss.
W. F. C. Partin, Chief, Meridian, Miss.
Art J. Baker, Chief, Lewistown, Mont.
Ward Hall, Chief, Alliance, Neb.
F. W. Donnelly, Chief, Lincoln, Nebr.
A. W. Olsen, Chief, Omaha, Nebr.
R. L. Palmer, Chief, Claremont, N. H.
William T. Happny, Chief, Concord, N. H.
George K. Lamott, Chief, Hampton Beach, N. H.
Arthur W. Spring, Chief, Laconia, N. H.
Chas. H. French, Chief, Manchester, N. H.
Anthony J. Molloy, Chief, Nashua, N. H.
Fred M. Dodge, Chief, Pencook, N. H.
Gordon G. Cushing, Chief, Rochester, N. H.
Fred M. Sargent, Chief, Sunapee, N. H.
Jas. G. Hogan, Chief, Bayonne, N. J.
Robert A. Read, Chief, Belleville, N. J.
Thomas F. Gussner, Chief, Bloomfield, N. J.
James F. McGrath, Chief, Cliffside Park, N. J.
Anthony Matovsky, Ex-Chief, Deal, N. J.
Frank P. Smith, Chief, East Newark, N. J.
Charles A. McGinley, Chief, East Orange, N. J.
Geo. L. Mitchell, Ex-Chief, East Orange, N. J.
George P. Lasher, Chief, Edgewater, N. J.
William H. Kenah, Chief, Elizabeth, N. J.
J. C. Bully, Chief, Elizabeth, N. J.
Andrew T. Callahan, Chief, Harrison, N. J.
Albert Chamberlain, Chief, Hillside, N. J.
Frank J. Ertle, Chief, Jersey City, N. J.
Walter Scott, Chief, Kearny, N. J.
Fred H. Fowler, Ex-Chief, Keyport, N. J.
Richard D. Quinn, Chief, Livingston, N. J.
Thomas R. Van Dyke, Chief, Long Branch, N. J.
Myron Barbour, Ex-Chief, Long Branch, N. J.
Oliver B. Presley, Ex-Chief, Long Branch, N. J.
Reginald P. Lurn, Chief, Madison, N. J.
Fred W. Cordes, Chief, Maplewood, N. J.
J. David Hayes, Chief, Millburn, N. J.
Freelan M. Green, Chief, Morris Township, N. J.
John J. Cullinan, Chief, Morristown, N. J.
Peter Kiernan, Chief, Newark, N. J.
James T. Keegan, Chief Salvage Corp., Newark, N. J.
Arthur C. Jaques, Chief, New Brunswick, N. J.
Andrew Hutch, Chief, Nutley, N. J.
George J. Gmeiner, Chief, Orange, N. J.
S. B. Conver, Ex-Chief, Ocean City, N. J.
Peter F. Campbell, Ex-Chief, Perth Amboy, N. J.
Eugene M. Reardon, Ex-Chief, Port Monmouth, N. J.
Walter H. Ritzman, Chief, Rahway, N. J.
Jerry McConvey, Chief, Red Bank, N. J.
George S. Wright, Chief, Roselle, N. J.
Warren A. Metzler, Chief, Roselle Park, N. J.
Thomas Murray, Chief, Summit, N. J.
Francis A. Murray, Chief, Teaneck, N. J.
K. V. Bidley, Ex-Chief, Teaneck, N. J.
Thomas J. Phelan, Chief, Trenton, N. J.
Charles Friedel, Chief, Union City, N. J.
Thomas P. Klimback, Chief, West Caldwell, N. J.
William Linden, Chief, Westfield, N. J.
Ernest D. Beckert, Chief, West New York, N. J.
Martin T. Kennedy, Chief, West Orange, N. J.
William P. O'Neill, Chief, Weehawken, N. J.
Matthew J. Kavanaugh, Chief, Amsterdam, N. Y.
William B. Castlmore, Chief, Buffalo, N. Y.
S. J. Higgins, Ex-Chief, Bedford Hills, N. Y.
Arthur J. Dillon, Chief, Binghamton, N. Y.
Everett B. Price, Chief, Dewitt, N. Y.
C. R. Patterson, Chief, East Herkimer, N. Y.
Charles Huber, Chief, Endicott, N. Y.
Reed E. Thomas, Chief, Frankfort, N. Y.
George W. Clough, Ex-Chief, Garden City, N. Y.
Charles B. Nimmick, Chief, Garden City, N. Y.
W. J. Gates, Chief, Glen Falls, N. Y.
Frank J. Gilliar, Chief, Great Neck, N. Y.
H. A. Vincent, Chief, Herkimer, N. Y.
Ralph Rivers, Chief, Hudson Falls, N. Y.
Sanford J. Getman, Chief, Ilion, N. Y.
Clifton J. Beatty, Ex-Chief, Jamestown, N. Y.
Rudolph H. Swanson, Chief, Jamestown, N. Y.
Frank V. Wilson, Ex-Chief, Kinderhook, N. Y.
Alexis B. Conness, Chief, Larchmont, N. Y.
Francis E. O'Boyle, Chief, Middletown, N. Y.
Alvin Jansen, Chief, Monroe, N. Y.
John Gibson, Chief, Mount Vernon, N. Y.
William A. Espy, Chief of Patrol, New York, N. Y.
Leland J. Wallace, Chief, N. Y. Life Ins., New York, N. Y.
J. H. O'Neill, Chief, Niagara Falls, N. Y.
Fred F. Knight, Chief, North Tonawanda, N. Y.
L. C. Brookins, Chief, Norwich, N. Y.
John J. Brennan, Chief, Pelham Manor, N. Y.
Harry W. Piggott, Chief, Rome, N. Y.
James J. Higgins, Chief, Schenectady, N. Y.
Charles H. Grothe, Chief, Gen. Elec., Schenectady, N. Y.
William T. Champ, Chief, Sherburne, N. Y.
Edward W. Glesselman, Chief, Syracuse, N. Y.
W. E. Gaffney, Chief, Watertown, N. Y.
Daniel Carnegie, Chief, Yonkers, N. Y.
J. C. Fitzgerald, Chief, Ashville, N. C.
C. L. Westmoreland, Chief, Canton, N. C.
W. Hendrick Palmer, Chief, Charlotte, N. C.
George F. McLaughen, Chief, Gastonia, N. C.
Frank D. Shaw, Chief, Greensboro, N. C.
Sherwood Brockwell, Chief, N. C. Vol. F. D., Raleigh, N. C.
Charles L. Burkett, Chief, Salisbury, N. C.
F. L. Campion, Chief, Fargo, N. Dak.
Clarence E. Harris, Chief, Akron, Ohio
James E. Granger, Chief, Cleveland, O.
Barney J. Houston, Chief, Cincinnati, O.
Edward P. Welch, Chief, Columbus, O.
Joseph A. Kirby, Chief, Dayton, O.
Harry A. King, Chief, East Cleveland, O.
Charles A. Delaney, Chief, Lakewood, O.
Robert R. Leedom, Chief, Portsmouth, O.
M. M. Hand, Chief, Shaker Heights, O.
Grover L. Frock, Chief, Springfield, O.
M. W. Gifford, Chief, Boardman Twp., Youngstown, O.
George R. McAlpine, Chief, Oklahoma City, Okla.
Chester C. Jennings, Chief, Tulsa, Okla.
Don Hayne, Chief, Albany, Ore.
Edward Grenfell, Chief, Portland, Ore.
Thomas R. Brearly, Chief, Cardington, Pa.
Charles E. Wood, Chief, Chester, Pa.
Frank Lord, Chief, Clifton Heights, Pa.
John A. Weber, Chief, Fair Oaks, Pa.
Edward J. Meilen, Chief, Jermyn, Pa.
Harry E. Miller, Chief, Lancaster, Pa.
J. C. Doughty, Chief, Lewickley, Pa.
Charles Smalenberger, Chief, Meadville, Pa.
Edward Doyle, Chief, Munhall, Pa.
T. R. Shenk, Chief, Neffsville, Pa.
J. W. Casdene, Inspector of Fire, Philadelphia, Pa.
J. Jack Weiss, Chief, Navy Yard, Philadelphia, Pa.
Chas. M. Stoner, Ind. Chief, Reading, Pa.
Douglas G. Kropf, Chief, Warren, Pa.
Charles E. Clark, Ex-Chief, Wayne, Pa.
James W. M. McKenzie, Chief, Barrington, R. I.
Frank J. Callahan, Chief, Central Falls, R. I.
Earl H. Batchelder, Chief, Centredale, R. I.
Paul O. Jache, Chief, Manton, R. I.
Henri E. Fortier, Chief, Manville, R. I.
Joseph L. Lawton, Chief, Newport, R. I.
Roger W. Rodman, Chief, No. Kingston, R. I.
Napoleon Taupier, Chief, Pawtucket, R. I.
Irving S. Black, Chief-Ind., Providence, R. I.
Otto J. Alletag, Chief, Warren, R. I.
Columbus Passetti, Chief, Westerly, R. I.
Augustin J. Cote, Chief, Woonsocket, R. I.
John W. Savage, Chief, Valley Falls, R. I.
Thomas H. Cotter, Chief, Providence, R. I.
Robert Jones, Chief, Chattanooga, Tenn.
Calvin M. Johnson, Chief, Knoxville, Tenn.
Irby Klinck, Chief, Memphis, Tenn.
J. A. Scruggs, Chief, Nashville, Tenn.
L. M. Funk, Chief, Dallas, Tex.
W. E. Jackson, Chief, El Paso, Tex.
C. C. Killian, Chief, Fort Worth, Tex.
D. P. Rachal, Chief, Port Arthur, Tex.
C. A. Hart, Chief, San Antonio, Tex.
C. Newton Lavery, Chief, Burlington, Vt.
Earl C. Burt, Chief, Enosburg Falls, Vt.
Alfred H. Koltonski, Chief, Rutland, Vt.
James M. Duncan, Jr., Chief, Alexandria, Va.
Frank H. Wheeler, Chief, Clifton Forge, Va.
John C. Long, Chief, Danville, Va.
T. W. Lamont, Chief, Fredericksburg, Va.
M. K. Evans, Chief, Lynchburg, Va.
Edward J. Cannon, Chief, Norfolk, Va.
G. A. Powers, Chief, Newport News, Va.
E. H. Rouse, Chief, Orange, Va.
Harry V. Ishum, Chief, Belvoir, Va.
W. B. Sykes, Chief, Portsmouth, Va.
A. F. Taylor, Chief, Richmond, Va.
William M. Mullins, Chief, Roanoke, Va.
Ralph F. Doolittle, Chief, Fairmount, W. Va.
William P. Payne, Chief, Spokane, Wash.
Elmer H. Fairbert, Chief, Beloit, Wis.
Julius Sely, Chief, Cudahy, Wis.
Lawrence E. Smith, Chief, Eau Claire, Wis.
Peter Steinkeilner, Chief, Milwaukee, Wis.
Fred Hartel, Chief, Wauwatosa, Wis.
Ross B. Davis, Chief, Navy Dept., Washington, D. C.
Charles A. Cunningham, Chief, Saint John, N. B.
John W. Churchill, Chief, Halifax, N. S.
R. E. Pare, Chief, Montreal, Quebec
Rosaire Beaulieu, Chief, Quebec City, Que.
Don Boulden, Chief, Winnipeg, Man.
George Gimblett, Chief, Peterborough, Ontario.

(List of Associate Members Registered on Page 532)

Fire Prevention Week Oct. 5-11

The President of the United States recently issued a proclamation designating the week of October 5 as Fire Prevention Week.

Probably never before in the history of the country has it been so important that the people of the United States give their attention to organized fire prevention efforts. Fire Prevention Week affords an opportunity for all to make a valuable contribution towards the nation's defense program. Chambers of commerce and trade associations are urged to cooperate and assume the leadership in fire prevention activities.

Fire losses in the United States during the past twenty-five years amounted to nearly $10,000,000,000—an annual average of nearly $400,000,000. In addition to the heavy property losses, the estimated loss of life in the United States from fire is 10,000 persons annually.

Past experience has indicated that with the speeding up of industry there has generally been an increase in loss of life and property due to fire. The trend of fire losses in recent months has been upward. Business men particularly should be alert to protect factories and plants against destruction by fire.

Fire Protection for Resort

Paul Frank Hoberg is Fire Chief of the Hoberg and Seigler Springs (Lake County), Calif., Fire Departments. The community resort is named after Chief Hoberg's father, who has resided in Lake County for approximately fifty years.

Hoberg's resort consists of approximately 450 cottages exclusive of main buildings and stores. The Hoberg Fire Department is equipped with a truck which carries a 650 gallon water tank and pump and 1200 feet of 1½-inch hose; and one LaFrance-Brockway truck which carries a 400 gallon water tank and 900 feet of 1½-inch hose. There are eight miles of 2½-inch water mains and 1½-inch outlets at the hydrants.

Seigler Springs, which the Hobergs own, consists of approximately 200 cottages and main buildings. The department there consists of two light trucks, one equipped with 450 gallon water tank and 1200 feet of 1½-inch hose and the other with approximately 40 Indian fire pumps and ten soda and acid extinguishers. There are seven miles of 2½-inch water mains with 1½-inch outlets at the hydrants.

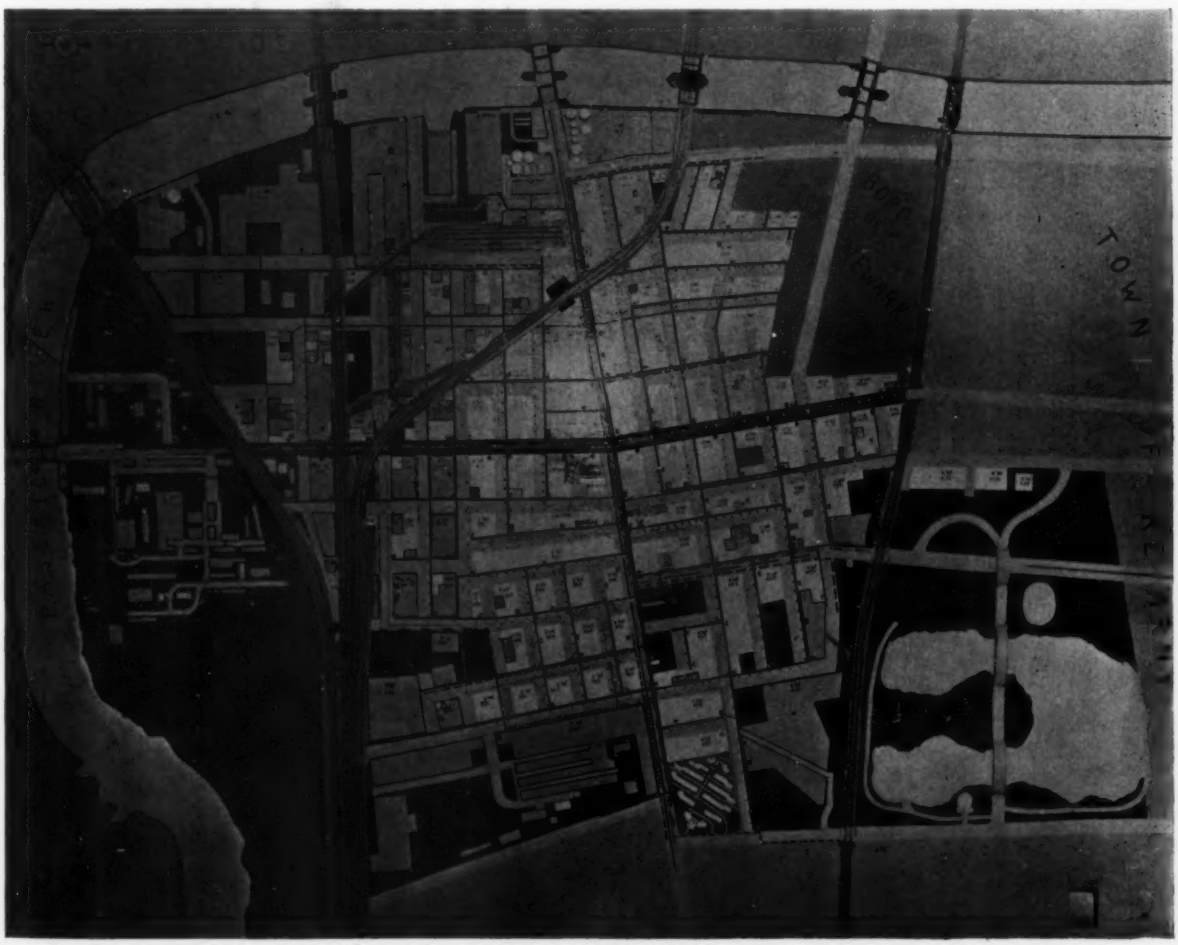
At both resorts the fire trucks carry twenty and thirty-five foot ladders.

At the present time, the Hobergs are considering the installation of a Gamewell fire alarm system.

Harrison, N. J., Maps Defense Data

The Fire Department of Harrison, N. J., of which Andrew T. Callahan is Chief, has developed a large wall chart as shown in the accompanying illustration, which catalogues industrial and defense data on the city in a way that can be seen quickly. Water mains are shown in color with the pattern of striping indicating the size. Industrial plants are shown in yellow; public buildings, pink; churches, blue; residential buildings, white; water tanks, alarm boxes, hydrants, fire houses and other fire and water facilities, red; sewers (large), blue and white striped; gas mains, colored stripes; power stations, red and white; oil works, aluminum (on tanks); gas works, brown; and coal tar storage, black.

Detailed sheets have been prepared for each block, and these sheets give essential data on structures, contents, etc.



Defense Chart Developed by Harrison Fire Department

Among the Fire Fans

By Otis Smith

BOX 9 ASSOCIATION, Attleboro, Mass., held the annual election of officers in June. Mr. John Wolfenden was reelected to serve as President for another term. Milt. Wood was reelected Vice-Pres., and Art Holbrook, Treasurer. E. Clifford Walker, 417 Thacher St., Attleboro, Mass., was elected Secretary. Mr. Walker will be glad to give details to other fan groups on the operation of the Attleboro Fire-Police.

The August issue of the Phoenician News contains much information on recent additional alarms in San Francisco. We note that the San Francisco Fire Department responded to 1103 alarms of fire during the month of June . . . from Pittsburgh comes news that a contract has been let to the Ward La France firm for three 1000 gallon pumpers . . . the Baltimore, Md., department has a new rescue wagon in service . . . picture fans may be interested in the trailer fire engine of the Cockeysville (Md.) V. F. D. The job features a complete pumper for a tractor with another pump on the trailer. The trailer also carries 1200 gal. of water, and various items of fire equipment. This writer has snapshots of the job, and can supply 2¼ x 3¼ prints for a small fee.

The Fire Alarm Bureau of the Washington, D. C., Fire Department was visited for the first time recently by the writer, together with Art Cline and Howard Larcombe, Washington fans. The two operators on duty were very cordial and explained every operation of the new office. Tests were made to show how the 100-hour storage battery system is drawn upon for every signal, and how the current is immediately replenished.

A visit was also made to the drill school, with Capt. McMann of Engine 8 as guide. The Washington Drill school contains all equipment used by the department, and the quarters were furnished with money given in various ways by the firemen.

A fine example of volunteer turn-out, with a humorous twist, was furnished by the Silver Spring Vol. Fire Dept. This department, just outside the District of Columbia, is recognized to be a very good volunteer department. So good, in fact, that the volunteer aerial truck transfers to a District of Columbia fire house on fifth alarms in Washington.

The writer was in the Silver Spring house when a house call was received. The usual house fire response of two pumpers, aerial truck, and rescue wagon rolled out of the house. I went on ahead in the Chief's car and, upon arriving at the fire in advance of apparatus, discovered that my camera had been left behind at the fire station. The house owner was standing in the road, waving his arms and shouting for carbon dioxide extinguishers. The Chief assured him that the department carried that type of extinguisher, meanwhile going ahead into the kitchen with a booster line and extinguishing a grease fire on the stove. Someone had just pumped a pint container of carbon tetrachloride at the fire and had then closed the door. This gas had no effect on the fire but caused the firemen in the room to drop to the floor as if they had been shot. No ill after effects were suffered however. The humorous side of the story was the home owner seeking to block the firemen, until assured that they would not take water into his house, but only carbon dioxide extinguishers.

Thanks to Commissioner William Arthur Reilly, Boston Fire Department for the copy of the International Convention book. It is to be noted that fire fans comprising the Boston Civilian Auxiliary Force, conducted a demonstration at the convention. Engine 13 in Roxbury has been turned over to the Auxiliary Force as their Headquarters, and the members are making repairs so that this station may become the model auxiliary fire station for the country. President of the Auxiliary is Mr. Herbert McLane, 14 Gordon St., Brighton, Mass.

Robert Allen, 2560 Polk St., Apt. 8, San Francisco, Cal., sent old time photos of the Portland, Oregon, Fire Department . . . also on hand are photos of the crash wagons at Bolling Field, Washington, D. C. . . . and Chicago apparatus . . . Wallace McDonnell, St. Louis, Mo., F.D. photographer sent a souvenir from Alexandria, Va.; a photo of the engine presented by George Washington in 1774.

July Fire Losses

Fire losses in the United States during July were $23,698,000 according to an estimate made by the National Board of Fire Underwriters. These estimated losses are on an incurred basis, including an allowance for unreported and uninsured losses.

The July loss total is a decrease of $1,245,000, or 5 per cent, from that of June, 1941, but an increase of $3,376,000, or 17 per cent, over that for July, 1940.

The aggregate losses during the first seven months of 1941 amount to $187,651,000, compared with $190,392,280 in the corresponding period in 1940.

54TH
FIRE FACTS
BY OTIS SMITH
IT IS SAID (BY THE ENGLISH AND SOME AMERICAN CITIES) THAT A NUMBER OF SIRENS ARRANGED IN A CIRCLE WILL GIVE BETTER COVERAGE THAN ONE LARGE SIREN, THE GROUP OF SIRENS DESIGNED TO GIVE OFF VARYING TONES.
DEFENSE
BOSTON FIRE DEPARTMENT EMERGENCY DEFENSE PUMPER
BOSTON FIRE FANS HAVE REACHED A NEW HIGH WITH THEIR AUXILIARY FORCE, SPECIAL FIRE PUMPERS AND PRIVATE QUARTERS. ENGINE 1 IS SHOWN ON PARADE
IN WASHINGTON, D. C. - BUILDINGS SERVICED BY GAS MAINS OF OVER 1½-IN. IN DIAMETER MUST HAVE AN OUTSIDE SHUT-OFF VALVE WHICH CAN BE OPERATED WITH A FIRE HYDRANT SPANNER WRENCH.
TO THOSE WHO NOTICED THE ABSENCE OF FIRE FACTS LAST MONTH - CIRCUMSTANCES BEYOND THIS WRITERS' CONTROL MADE THE DRAWING OF FIRE FACTS IMPRACTICAL AT THAT TIME.
Otis Smith

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

FLOOR OPENINGS FOR OPERATING ON BASEMENT FIRES

TO facilitate placement of cellar pipes and distributors in operation on basement fires, as well as to afford means for ventilating basement fires, many Fire Departments require the installation of floor scuppers (floor openings with watertight covers) on the ground floors of commercial buildings.

That these devices have proven effective is asserted by Chiefs who have used them. In this discussion the experiences of a representative group of Chiefs are given.

The questions on which this discussion is based are given in the box on this page. Because of the generous response from readers, it will be necessary to continue discussion of this topic in the next issue of this journal.

HERE IS THE PROBLEM

Are any buildings in your city equipped with floor scuppers (small floor openings with covers) to aid the fire department in operating on a basement fire should such occur?

If so, has the department ever used them, and with what results?

What benefits do you believe might result from the general use of these devices, particularly where concrete flooring was encountered?

Thomas M. Lane, Chief, Alameda, Cal.: I presume that what you call floor scuppers are known here as basement pipe inlets as designated in our Building Code. Below are the regulations pertaining to their installation.

"Basement pipe inlets shall be installed in the first floor of every store, warehouse or factory where there are cellars or basements under same, except where in such cellars or basements there is installed an automatic sprinkler system as specified by this Code, or where the cellars or basements are used for banking purposes, safe deposit vaults or similar uses.

"All basement pipe inlets shall be of cast iron, steel, brass or bronze with lids of cast brass or bronze and shall consist of a sleeve not less than eight (8) inches in diameter through the floor extending to and flush with the ceiling below and with a top flange, recessed with an inside shoulder, to receive the lid and flush with the finished floor surface.

"The lid shall have the words 'Fire Department Only, Do Not Cover Up' cast on the top thereof. The lid shall be installed in such manner as to permit its removal readily from the inlet.

"The location of such basement pipe inlets shall be approved by the Building Inspector and kept readily accessible at all times to the Fire Department."

We have a few of these installations in our city, but have never used them to date. Without doubt, they will be valuable in the event of a fire for the detection of the hot spot, and in a serious fire for the insertion of circulating nozzles or other similar devices.

Some of our wharves are equipped with these inlets and several times where the wharf has been covered with concrete they have proven their worth, as they have saved us from opening up and doing excessive damage.

I am heartily in favor of the basement inlet pipe.

Benjamin L. Chase, Chief, Haverhill, Mass.: We have several buildings in our city equipped with sumps with automatic pumps in the basement. There is no question as to the value of these to the Fire Department and to the occupants in preventing water damage to contents.

We have one building in the city which is of cement construction and eight stories in height. It is equipped with floor scuppers on all floors above the basement. These scuppers have on several occasions prevented serious damage to contents by water from the sprinkler system.

I believe that floor scuppers are very valuable in preventing water damage to contents and should be installed at least in all new buildings.

William F. Cowden, Chief, Philadelphia, Penna.: A number of our buildings are equipped with floor scuppers and we have found them of great service in relieving the floor weights and pressures especially where absorbent materials are stored. Where they are properly maintained, they are of great service in fire extinguishing.

Ambrose Saricks, Chief, Wilkes-Barre, Pa.: There are no buildings equipped in Wilkes-Barre with floor scuppers at this time, but I believe that considerable damage such as that caused by chopping holes in the floors to get at cellars, can be averted by the installation of floor scuppers.

C. M. Johnson, Chief, Knoxville, Tenn.: Knoxville does not have any buildings equipped with such openings; however, openings of this kind would greatly aid the Fire Department in extinguishing basement fires and also save the damage caused by sawing and chopping holes through the floors to use cellar pipes.

Charles Muirhead, Chief, Danville, Ill.: We have no scuppers in any of our buildings. I am sure that if scuppers were required in our Building Code, they would be of great benefit to our department.

In the last few years it seems that all building owners have been closing the airways that were at one time a great help to us in reaching the basements with a line of hose, so we are hoping that some day scuppers will be a requirement in all building codes.

L. B. Barnum, Chief, Phoenix, Arix.: According to our new Building Code all new buildings with basements are required to be equipped with floor scuppers. This pertains to business buildings only.

We have used them and find them very beneficial, so useful that their installation was included in the Building Code.

Scuppers serve many purposes. They may be used to locate fire within a certain area or used to extinguish the fire with the aid of a cellar nozzle. We have a smoke ejector with a wind tunnel which fits over the scupper opening so that the opening can be used to ventilate the basement.

Henry P. Scholl, Chief, Michigan City, Ind.: There are no buildings in our city equipped with floor scuppers so we have had no opportunity to use them and have been confined to fighting our basement fires through available windows and by cutting holes through wooden floors, which is a mighty tough job when the place is filled with smoke.

If we ran up against a cement floor in a building, we would have even a tougher job, as most places are even sealing up their basement windows.

Bulletin 124 of the National Board of Fire Underwriters explaining a department store fire clearly demonstrates the necessity of scuppers. We have a similar condition in our city.

Harry Hutton, Chief Salem, Ore.: We have them in a few new buildings and have it in our Building Code now so that it will be compulsory to put them

in all new construction. We are trying to have them put in all old buildings. I think they are very fine.

A. N. Hofstetter, Fire Marshal, Evanston, Ill.: We have one such installation in a drug store. The scuppers installed are eight by ten inches with metal covers. The scuppers were installed in this building because there have been several bad fires in the basement. The only way the basement could be ventilated was through an open stairwell leading up from the basement to the main store.

There are several reasons why scupper holes are of great benefit to a fire department in the event of a basement fire. They are as follows:

1. By going in on the first floor and feeling the scupper plates, a fireman can readily locate the fire in the basement.

2. Hose lines can be stretched to scupper openings and a distributor or fog nozzle used to good advantage.

3. Scupper holes with iron covers, distributed properly throughout the first floor of a building, are a big help to any fire department not only in locating and extinguishing a fire, but also for ventilating blind basements.

4. Scupper holes do away with the necessity of chopping or breaking through any kind of flooring in order to reach the seat of a fire in the basement.

My personal belief in the value of scupper holes cannot be overemphasized. On several occasions in the past I have tried to have the City Council pass an ordinance enforcing this very necessary safety measure.

Edward Grenfell, Chief, Portland, Ore.: Floor scuppers (cellar pipe floor castings), one for each twenty-five hundred feet of first floor area, were required in new construction by the Portland Building Code from 1910 to 1918, but met with opposition from builders. As a result, the ordinance was rescinded.

The Fire Department has used these existing openings on several occasions with satisfactory results.

It is my opinion that floor openings, if properly located and access to same maintained, would be of material aid in extinguishing basement fires, especially in concrete floor construction.

However, at present our department is equipped with two-inch compressed air operated augers and compressed air operated chisels and concrete breakers, which together with special cellar pipe nozzles have proven very satisfactory.

H. F. Lyles, Chief, Houston, Tex.: Inspectors report only one building in Houston equipped with floor scuppers. We have never used any in fighting basement fires.

We have had two serious basement fires in four years. One was in a large thirty-two story building. The sidewalk was tapped in this case. The other was in the basement of a post office. Scuppers would have been very useful in both cases.

Ira T. Jones, Chief, Bellingham, Wash.: My off-hand opinion is that scuppers would prove very valuable in certain building fires, especially if the floors were made of concrete.

Henry L. Hillis, Chief, Tucson, Ariz.: I feel that floor openings are of great value to the fire department. We have used them with good results on several basement fires.

THIS DISCUSSION WILL BE CONTINUED

Due to the large number of Chiefs who contributed their experiences, the discussion on this subject will be continued in the next issue.

I believe they should be installed in every building having a basement as it averts the necessity of chopping openings in the floor.

Frank W. Bender, Jr., Chief, Saginaw, Mich.: At the present time not a single building in the city is equipped with floor scuppers. However, this is not through any fault of mine as I am an advocate of their general use and have recommended them on numerous occasions. Only recently have I been successful in prevailing upon the owner of a large wall paper and paint store to install four of them on the first floor.

Several merchants that I have approached with the idea are under the impression that the scuppers would be just another gadget on the floor for the customers to slip on or trip over, increasing liability. Several merchants have informed me that I would be surprised at the number of customers who present personal injury claims on account of accidents which the customers claim happen in and about their premises.

With the idea in mind of making the scupper skid-proof, I have written one of the manufacturers recommending that the tops of scuppers be knurled or roughened in order to obviate the possibility of customers slipping on them.

I have much faith in scuppers or hose pipe inlets and can think of several instances where I believe the damage would have been considerably less if the building were so equipped.

Ralph C. Dinkel, Chief, Terre Haute, Ind.: We haven't any buildings in our city equipped with floor scuppers.

It is my opinion that the general use of these devices would be very beneficial to fire departments especially in fighting fires involving concrete floors. It would also facilitate fire fighting in wooden floors as it would not be necessary to cut through the floor with an axe or saw.

It would be a very good amendment to the building code to have them installed in any building erected after the passage of such an amendment.

Edw. A. McHugh, Chief, Louisville, Ky.: To my knowledge two buildings in this city were at one time equipped with floor scuppers, but due to the number of accidents caused by persons slipping on the glass inserted in the top, the accident insurance companies insisted that they be removed or the owners would have to pay a higher rate. This was done and as a result, the scuppers have never been replaced.

I personally believe they are a big help to the fire department in as much as a line can be used with a cellar pipe or Bresnan nozzle without cutting a hole which must be done in order to reach the basement sections of some buildings especially in the high value district. The glass insert in the top also helps to locate the seat of the fire without much delay. This is especially true where concrete floors must be pierced.

F. A. Taylor, Chief, Colorado Springs, Colo.: We have no ordinance requiring the installation of scuppers, but it will be included in the next revision of the Building code. We have asked the builders to install them in all recent jobs where concrete or terrazzo floors are used. They have complied in all cases.

We have had no occasion to use these scuppers as yet, but believe they will be of great benefit in the saving of time required to cut a hole through the floor for a cellar pipe. A concrete floor is a considerable problem.

Loran A. Keddie, Acting Chief, Malden, Mass.: We have several buildings in our city equipped with floor scuppers.

I believe that they are an asset to any department. One of the toughest jobs in fire fighting is to chop holes in floors for cellar pipes when the building is heavily charged with heat and smoke. It is necessary, however, to keep a close watch on those buildings having scuppers for we have found when inspecting them that counters have sometimes been placed over scuppers.

The last scuppers to be installed were made of heavy glass. These are more easily found than those made of the same material as the flooring.

Daniel F. Young, Chief, Cranston, R. I.: In this city buildings with not more than one entrance to the basement are required to install floor scuppers.

To date this Department has not found it necessary to use floor openings, but realize their value when conditions warrant their use.

The benefit of a floor scupper lies in the speed a cellar pipe or nozzle can be placed in operation. In concrete floors they eliminate long delays in placing cellar nozzles in use.

William J. Lutz, Chief Engineer, Wilmington, Del.: Buildings equipped with floor scuppers are very rare in our city. In fact, I do not know of any with concrete floors so equipped.

There are a small number of commission houses which use the basement of their buildings for ripening bananas. They have floor scuppers which have been used for passing bunches of bananas from the basement to the first floor. These have been utilized on several occasions in coping with basement fires.

One benefit derived from the use of these scuppers is the ease with a cellar pipe or distributor can be inserted without any damage to the floors. Such damage would be very great in case of concrete floors; also much valuable time would be consumed in making an opening.

These scuppers should be constructed of fire resistant material in order to prevent fire from communicating to upper floors. It would also be well to consider the installation of proper drainage at the same time.

With floor scuppers the fire can be discovered promptly as the smoke would seep through them.

I have recommended the installation of these scuppers in my annual report of the Fire Bureau.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Testing Extinguishers

To the Editor:

How can a 2½-gallon fire extinguisher be tested by hydraulic pressures up to 300 pounds? I have a hydraulic fire hose test pump which I plan to use.

L. G. F.

Answer:

Fire extinguishers can be tested with any hydraulic pressure pump, capable of giving 300 pounds per square inch.

However, in the use of any pump, it is very important that all air be exhausted from the extinguisher before it is subjected to pressure. If a quantity of air is permitted to remain in the extinguisher, when it is put under pressure, the air is compressed and in the event that the extinguisher ruptures, there will be an explosion. On the other hand, if the extinguisher is completely filled with water, should it rupture there would be but a small opening.

Gauges on Sprinkler System

To the Editor:

In my inspection work I often find considerable variation in the pressures registered on the two large gauges marked "water" where sprinkler main enters building. These readings for example, could be 75 and 95 pounds.

Now I assume that the larger pressure is the direct or constant pressure on the main, while the smaller pressure reading is the pressure exerted in the entire sprinkler system ready for service in the event of fire. Am I correct? J. E. C.

Answer:

You are right in assuming that, where two gauges are found on sprinkler system, one records the pressure in the main and the other the pressure in the sprinkler system.

Sometimes one of the gauges will be recording air pressure in a dry pipe system, while the other records the pressure on the main side of the installation.

Converting 1½-Inch

To the Editor:

What is the factor used to change 1½-inch hose to 2½-inch hose; also, what is the factor for changing two lines of 1½-inch hose to one line of 2½ inch hose? L. N. C.

Answer: Making the change in two steps, we divided the length of each line of 1½-inch hose by 0.74 to change it to 2½-inch hose.

Then we divide the length of the parallel lines (length of either line) of 2½-inch hose by 3.6 to find the equivalent in a single line of 2½-inch hose.

If we want to make the conversion all at one time, then we divide the length of either of the parallel lines of 1½-inch hose by .2664, and the answer will be the length of a single line of 2½-inch hose equivalent to the parallel lines of 1½-inch.

Suction, Etc.

To the Editor:

1. In the May issue of FIRE ENGINEERING a question was asked relative to a formula for calculating the inches of vacuum that should be shown on the vacuum gauge. The answer was that no such formula was known. I have always multiplied the distance (in feet) the water is being drafted by 12 and divided the product by 13.59. Is this method correct?

2. Have any tests ever been conducted to determine what amount of hose can be saved if the hose were stretched from hydrant to fire in a straight path rather than in a wavy one? What percentage of engine pressure is lost due to the added friction loss when the hose is laid in a wavy path?

3. If I had a pump drafting water, and had one 2½-inch line 100 feet long with a 1⅛-inch tip with 50 pounds nozzle pressure, stretched from the pump outlet, I would set my pump at 71.7 or 72 pounds pressure. If I were to lay two 2½-inch lines each 100 feet in length and each equipped with a 1⅛-inch tip and each at 50 pounds nozzle pressure, what pressure would I set my pump at?

H. L. R.

Answer:

1. Your method of solving vacuum, due to the elevation of water, or static head, is correct. However, another factor enters into the problem where an engine is taking water through suction. Where water is drawn through suction hose, the friction in the suction hose adds to the vacuum. It is because of this phenomena that a fire engine will pull a vacuum when operating on a main which is too small in size although the lift may be negligible. Hence we referred to a formula for finding the vacuum due not only to the lift, but also to the friction loss in the suction when we answered the problem to which you refer.

2. Where hose is laid in a sinuous or wavy path, it may have as much as six per cent increased friction loss over hose laid in a straight line. For example, the friction loss in 100 feet of hose carrying a certain quantity of water is 15 pounds, and the hose is laid straight. This friction loss will be increased six per cent or .9 pounds by laying the hose in a wavy path.

However, hose lines may be laid absolutely straight at a fire, and as soon as they are put under pressure, due to the expansion of the hose with pressure, they will take a sinuous path.

3. With regard to stretching a second line of hose from a pumper, as it is identical to the first and the nozzle pressure on the second will be exactly the same as the first, the engine pressure for both would have to be the same. In other words, you would set your engine at approximately 72 pounds pressure for either one or two lines where the nozzle pressure is to be 50 pounds and the layouts are identical.

Solving for engine pressure and nozzle pressure in a problem of this type, where two parallel lines are laid, you solve either line as a separate problem and the results you get in the solution apply to the other problem.

Foam as Insulator, Etc.

To the Editor:

I would appreciate very much an explanation of your "True and False" statement number 7 in the April, 1937, issue which reads as follows:

"Fire foam will coat vertical surfaces almost as well as horizontal surfaces."

The answer was given as "true."

I would also like to know whether or not it takes any power of the engine to draft water after the priming pump (centrifugal pump) has obtained suction, or whether the atmospheric pressure will push the water into the pump with no help from the engine.

J. P. B.

Answer:

The statement that fire foam will coat a vertical surface almost as well as a horizontal surface is true, if the foam is of proper consistency. As a matter of fact, manufacturers of foam point out its value in protecting surfaces exposed to hot fires.

With reference to an engine drafting water, it requires power on the part of the engine to raise water by draft, even after priming has taken place. If water is lifted ten feet by suction, the engine has to do just as much work as if it were pumping water up vertically a like distance.

Effect of Back-Pressure

To the Editor:

In your September, 1937, issue of FIRE ENGINEERING, question No. 6 reads as follows: "Engine Pressure is always equal to nozzle pressure plus friction loss in the hose and at connections." Your answer is "False." I would appreciate receiving an explanation.

N. W.

Answer:

Engine pressure is not always equal to nozzle pressure plus friction loss. If the line is laid up an incline, or down an incline, then you must figure back pressure. Back pressure has a very definite effect on engine pressure. For example, if the engine is pumping to an elevation of 100 feet, the back pressure is 43.4 pounds. This pressure must be added to the friction loss and nozzle pressure to give engine pressure.

If the engine is pumping down an incline, then the back pressure representing the drop from the engine to the nozzle must be subtracted from the total of friction loss plus nozzle pressure to give engine pressure.

Use of Double 4½-Inch Connection

To the Editor:

For what purpose is a double 4½-inch male connection with a double female carried? This double male has the same threads and is not a reducer. L. L.

Answer:

As we do not know the type of suction hose used in your department, it is difficult to answer your question.

Some departments carry one section of suction hose equipped with female couplings on both ends and another, with male couplings.

In the event that two lengths of suction must be used in the line, the double female fitting is attached to the hydrant and to one section of the hose fitted with male couplings. The other end of the line of hose is attached directly to the pumper.

If both sections are equipped with female couplings on either end, then the double male couplings would be used to connect the two sections together.

Outside of these, we know of no common reason for the couplings described.

Drop in Pressure Through Hose

To the Editor:

An engine is supplying 500 feet of 2½-inch hose and maintaining a constant flow and a constant pressure at the nozzle. Gauges are placed between the couplings at every 100 feet. What will be the relation of one gauge to the next when the water is flowing?

P. W.

Answer:

Where a pumper is pumping through a line of hose, the pressure, at different points from the engine to the nozzle will be less. For example, in a line of hose carrying 200 gallons per minute, the friction loss per hundred feet is approximately 10 pounds. Thus if the engine pressure is 120 pounds, the pressure at the end of the first hundred foot stretch will be 110; at the end of 200 feet of hose, the pressure will be 100 pounds, and so on down to the nozzle.

While the flow must be uniform at any point in the hose line, the pressures at different points are not the same. As noted previously, it decreases continually along the line up to the point where the water is discharged from the nozzle.

Booster Line Problem

To the Editor:

I am in charge of a combination hose and booster type truck, and the booster line consists of 200 feet of ¾-inch hose equipped with a ¼-inch tip. Engine pressure is 125 pounds. What would the nozzle pressure be?

T. J. O.

Answer:

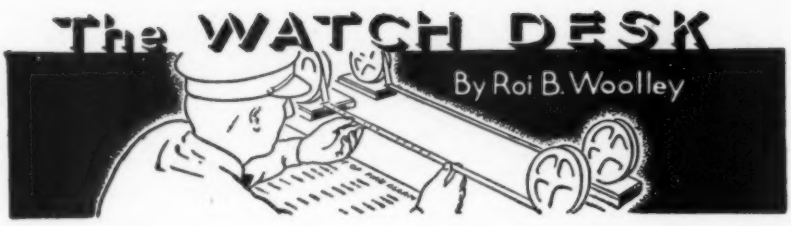
Using a ¼-inch tip on 200 feet of ¾-inch booster line with 125 pounds pressure on the engine, the nozzle pressure is found as follows:

$$N.P. = E.P. \div (1 + KL)$$

Engine pressure is 125 pounds; K is .235, and L, 4.

$$\text{Then } N.P. = 125 \div (1 + .235 \times 4)$$
$$= 125 \div 1.94$$
$$= 64.4 \text{ pounds}$$

(*Continued on page* 542)



Our inquiring reporter overhauls the firemanic news of the day

Quick Oscar—the Flit—or "Gnats to You!"

Out in Cleveland the F.D. Dispatcher got a phone flash: "The terminal tower (52 stories tall) is afire; smoke's pouring out of the top floor!"

Three engine, two truck companies, a rescue squad and chiefs' cars sirened through busy Public Square and a squad of the Brothers dashed for the elevators, rose to 42nd floor, then huffed and puffed up to the 52nd floor level. Fifteen minutes later they quietly returned to the street, peeved and still puffing! *"Gnats"* (not "nuts") said Battalion Chief Charles Smith, *"millions of 'em, swirling and whirling around 'till they looked like smoke."* *"Gnats"* echoed Asst. Chief Michael Fallon—*"flit back to quarters."*

Thanks to C. E. M., Toledo, RHR Cleveland and an unknown who sent in this same item. It takes the flit gun

* * *

Lohrville Gets a Laugh!

According to contrib' Earl Robinson, Lohrville (Ia.) Vamps won a battle with Old Sol in this fashion: Seems that about 4:15 one morning a threatened storm awoke residents, who found sky in north black, wind whipping the trees, leaves and branches flying. They rushed to shut the windows on north and west, then, when they went to east, they saw the sky abaze—at about which time the fire whistle screeched. Surely no less than an elevator or big building could be burning! Soon the truck screamed down the street, stopped at a large residence. No fire! Well then it must be the depot. So to the depot dashed the truck, followed by a growing crowd of excited citizens. No fire *there!* It was about this time that someone pointed out that the whole eastern sky was aflame. Yeah—came the dawn! The red glow through the waving trees and flying dust gave illusion of a big blaze. Depot windows had reflected the glow. And so, having "seen their duty and done it" the vamps retired!

* * *

Department of Utter Confusion!

Someone whose sense of humor is tinctured with wormwood and aloes played havoc with undertakers, movers cabdrivers, police and firemen, a Reverend Father and just plain citizens, in Newark (N.J.) t'other day. For a time excitement centered around 6-family apartment where, in course of afternoon, 21 undertakers, 5 taxis, 4 moving vans, called on "order" of a "Mr. Providence." A Mr. Providence resided there, but he was "away" and neighbors bore brunt of wrath. Next victim, a storekeeper, Mr. Zangwell, 8-blocks away, received surprise calls from 5 undertakers, 5 movers, 4 taxis and a COD order. Another victim was Rev. Joseph McDonald whose ordeal endured between 1 P.M. and 7 P.M. during which he answered numerous lewd and ribald—all anonymous, phone calls which was topped off at 4.49 P.M. by abrupt and clamorous arrival of numerous pieces of fire and police apparatus, with the Brothers wanting to know "where the fire is at?"

"You're too late," retorted Father McDonald, bitterly *"I'm all burned up!"*

* * *

How to Collect Aluminum!

Gee! how we'd like to have been one of those New York City Brothers who went out on the "pots-and-pans detail" to collect aluminum for dear old defense, in their nice shiny trucks, loaded with what dye think?—*ten, beautiful chorines* from the Hellzapoppin show! Un hun—all good wholesome publicity, of course!

* * *

Well Dunned!

Demon clipper Mensing sends A.P. item which tells us that Oregon Township (O.) trustees are going to be dunned for the price of 11 chickens, according to Fire Chief Charles Carr. That's the price for trying out a new fire siren. Uh huh—the chickens were scared to death by the blast!

Chief Herring Has an Anniversary

Chief Albert Herring of the Murphysboro, Ill., Fire Department, celebrated his forty-third anniversary as Chief of that department on August 7.

Chief Herring has held as many as nineteen city jobs, including those of Supervisor of Cemeteries, Vice-President of Park Commission and Manager of the Public Relations Department of Murphysboro, at one time.

In addition he finds time to devote to the International Association of Fire Chiefs, the Illinois Firemen's Association and the Egyptian Fire Fighters Association.

Youngest Fire Chief

Mechanic Falls lays claim to having the youngest Fire Chief in Maine in the person of 29-year old Eugene Hill who was recently elevated to this post. Chief Hill has been a member of the Mechanic Falls Fire Department for the past nine years. Shortly after entering the department, at the age of nineteen, he received his baptism in fire fighting at the disastrous New Auburn fire of 1933.

FALSE ALARMS

"I Meant to Speak to You About the Way You Swing That Corner. . . . So I Guess This Is As Good a Time As Any!"

NOVEL WELCOME

A religious group in a fire department of a certain city holds an annual church service. On this particular Sunday, the firemen marched, with the Fire Commissioner at the head of the column, to the place of worship. At the time set for the service the party had not arrived, so a hymn was announced—"Hold the Fort for I am coming" to tide over the gap. Unfortunately just as the party arrived they had got to the line, "See the mighty horde approaching, Satan leading on."—*The Ilford Pumper* (*to whom credit is due also for other items on this page*).

A discouraged fire equipment salesman recently wired his house as follows: "If Hitler wants more territory, he can have mine."

SLIGHTLY CONFUSED

He had been attending the monthly meeting of the Vamps, where he had dined very well. Upon arriving at what he thought was his house, he did his best to fit the key into the lock, singing a happy song meanwhile. After a time, a head looked out of the window above.

"Go away, you fool," cried the man upstairs; "You're trying to get into the wrong house."

"Fool, yourself," shouted the man below, indignantly. "You're looking out of the wrong window."

"This ticket to the west coast costs you $100, and allows you a three-day hangover in Chicago."

"And how much if I don't get drunk in Chicago?"

PENALTY OF PRECISENESS

At a trial for arson, a judge was pointing out that a witness is not necessarily to be regarded as untruthful because he alters a statement made previously. "For instance," he said, "when I entered this court today I could have sworn I had my watch in my pocket. But then I remembered I had left it in the bathroom at home."

When the judge got home that night his wife said: "Why all this bother about your watch—sending four or five men for it?"

"Good heavens," said the judge, "what did you do?"

"Why I gave it to the first one who came; he knew just where it was."

TRAGEDY

During the solemn memorial services at the convention, an elderly man dropped something and was making frantic efforts to recover it, when a woman next to him asked what he had lost.

"A caramel," the old man replied.

"You don't mean to tell me," the woman said, "you are making all this fuss over a caramel?"

"Yes," came the reply, "my teeth are in it."

HELPFUL

Enroute to the I.A.F.C. conference, the following dialogue was heard in a sleeping car:

"But, who would want to steal a Pullman ladder?" expostulated the conductor.

"I don't know, but she's gone," responded the porter.

At this juncture a passenger, occupying an upper berth for the first time, overheard the conversation, parted the curtain and generously remarked:

"Porter, you may use mine," I won't need it till morning."

"But Look . . . I'm Supposed to Rescue You."

NEW YORK FIRE DEPARTMENT TESTS TRAILER TYPE PUMPS

Eight Units Put Through Paces at Manhattan Sea Wall

By Jerry Daly

EIGHT small-size fire pumps, six of them trailers and two automotive, but all designed for the facility of home defense, were tested recently by the New York Fire Department at the Battery seawall. Some of the pumps were rushed from the I.A.F.C. convention the day before. The test however did not include all of the types that have been built for fire defense. Others which had been tested at the Boston convention were not to be transferred to New York in the short space of time.

The test was observed by Fire Commissioner Patrick Walsh, Assistant Fire Chief John J. McCarthy, in command of the fire fighting force, Deputy Chief Engineer Hutson of the National Board of Fire Underwriters and a score of Fire Chiefs from the West and South who were enroute home from the Boston conference.

The statistics were recorded by Capt. Herman Kuch in charge of the shops and by Lieut. William J. Fealy, the supervising engineer of the department.

Engine No. 1 (from left to right) was a one and a half ton Chevrolet truck with an American Marsh centrifugal pump of 500 g.p.m. at 120 pounds. The truck carried a 400 gallon tank that can be refilled from the pump. No. 2 was a Maxim pump mounted on the largest Indian motorcycle made. It had a Ford V8 motor of 85 h.p. and delivered 500 gallons at 120. No. 3 was a Hale Pump on a trailer with a Ford V8 motor of 85 h.p. and delivered 500 gallons at 120. No. 4 was a Twin Coach trailer, Hercules 6 cylinder engine of 90 h.p. and delivered 500 g.p.m. at 120. No. 5 was an American Marsh trailer with a Ford V8 engine of 85 h.p. and it delivered 500 g.p.m. at 120. No. 6 was a Heyer Products trailer with a Ford 4 cylinder engine delivering 500 g.pm. at 100. It carried 1000′ of hose—400′ of 2½″ and 600′ of 1½″ hose; also two Indian portable knapsack pumps of 5 gallons each. It had 20′ of 4½″ suction in two sections. No. 7 was the Carter Trailer with a Ford V8 motor of 85 h.p. and a capacity of 500 g.p.m. at 100. It has two 10′ suctions of 5″ each and four discharge gates for 2½″ hose of which it carries 500 feet. No. 8 was a Barton American Trailer made by the American Marsh people. It has a Ford V8 motor of 60 h.p. and it did 250 g.p.m. at 120. It carries 500′ of 1½″ hose and 250′ of 2½″ hose. It has two 10′ suctions of 3″ each.

In fact all of the pumpers in the test carried various sizes and quantities of hose together with suctions of various sizes and lengths. No specific appraisal of the test was made by any official of the Fire Department beyond the general statement by Commissioner Walsh that the test was most satisfactory. New York has no funds available for purchasing a fleet of trailer pumps to fill the requirements of the defense plans that are still in the blueprint stage as far as additional equipment and apparatus are concerned.

Recent Test Conducted at Battery

New England Chiefs Meet

On Monday, Aug. 18, just preceding the conference of the International Association of Fire Chiefs, the New England Association of Fire Chiefs held their annual meeting at Mechanics Hall, Boston. In order to cooperate with the International Association, the New England Association joined with the International in staging the exhibits of apparatus and equipment. Furthermore, only a short business meeting was held so that all of the members of the New England Association might participate in the program of the International, which took up the following four days.

After the usual opening formalities, and business, the Association held election of officers. Chief William C. Mahoney, Peabody, Mass., was elected President to succeed Chief Thomas Cotter of Providence. Chief Michael W. Lawton of Middletown, Conn., was elected First Vice-President and Chief William T. Happny of Concord, Second Vice-President. Chief John W. O'Hearn of Watertown, Mass., was unanimously elected to succeed himself as Secretary-Treasurer.

Next year's New England Convention will be held at Rutland, Vt.

43 Per Cent of Ontario's Apparatus Is Old

A survey of fire fighting apparatus in fifty-seven Ontario municipalities, including all large cities except Ottawa, reveals that 43.04 per cent of the 216 pieces of apparatus have been in service for sixteen years or more, according to a report from the office of Fire Marshal W. J. Scott, K. C. It is pointed out that fifteen years is the generally accepted standard for the reliable life of fire apparatus.

In an anylsis of the survey, compiled under instructions by Mr. Scott, it was shown that the apparatus owned and used by these municipalities includes 107 pumpers, fifty-six hose trucks, forty ladder trucks and thirteen aerials, while seven pieces of apparatus, unclassified as to age and utility, were not included.

In addition to the 43.04 per cent, which is rated below standard because of age, another 31.01 per cent is approaching fifteen years of age.

Fire Trucks for Hospitals

Iowa's four state hospitals for the Insane will have modern fire protection when the fire trucks recently purchased for them are delivered. The trucks purchased are equipped with 500-gallon per minute booster pumps with 55-foot extension ladders, roof ladders, chemical tanks, axes, hose and other fire fighting equipment.

The Board of Control awarded the General Fire Truck Corporation of Detroit, Mich., a contract for furnishing one truck each at the Mount Pleasant, Clarinda, Cherokee and Independence hospitals.

Fire companies at each of the four hospitals, formed several months ago, will receive special instruction in handling the new trucks when they are delivered.

The state also has arrangements with the municipalities where the institutions are located for use of their equipment in emergencies.

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Joseph T. Gorham, Boston, Mass.
Wm. A. Grouse, Boston, Mass.
Theodore W. Gunn, Eng., N. H. Bd. Underwriters, Concord, Mass.
George F. Hoag, Engineer, Essex, Mass.
John J. Kelley, Hoseman, Boston, Mass.
John J. Kenney, Dep. Chief, Boston, Mass.
Stanley R. Kingman, Box 52 Assn., Boston, Mass.
M. Gale Lemoine, New Eng. Mgr. Homelite Corp., Boston, Mass.
Eugene F. Lewis, Photographer, Boston, Mass.
Daniel J. Looney, Sec. Mass. State F. Assn., Boston, Mass.
Justin A. McCarthy, Justin A. McCarthy Co., Boston, Mass.
Thomas C. McIntire, Mgr. McIntire Brass Works, Boston, Mass.
Albert L. O'Banion, Supt. Fire Alarm Div., Boston, Mass.
Edward J. O'Neill, Boston, Mass.
Wm. Arthur Reilly, Fire Com., Boston, Mass.
J. W. Roy, Plant Supt. A. D. T., Boston, Mass.
Edward T. Ryan, Boston, Mass.
William F. Schmitt, Mack Motor Part Co., Boston, Mass.
John F. Scully, Am. Fire Equip. Co., Boston, Mass.
Edward D. Sherman, Boston, Mass.
Carl Smith, Deputy Chief, Boston, Mass.
Hubert W. Tracey, Salesman Am. Fire Equip. Co., Boston, Mass.
George H. Whitney, Whitney Fire Appliance, Boston, Mass.
Herbert K. Pratt, Box 52 Assn., Bridgewater, Mass.
Louis W. Bills, Fire Alarm Supt., Lexington, Mass.
Donald T. Fring, Lexington, Mass.
Stephen C. Garrity, Fire Marshal, Mass., Lowell, Mass.
Walter A. Johnson, Malden, Mass.
Charles N. Page, Medford, Mass.
Fred B. Alger, Seagrave Corp., Middleboro, Mass.
Ernest L. Maxim, Pres. Maxim Motor Co., Middleboro, Mass.
George H. Pettengill, Milton, Mass.
Everett L. Angier, Sales Eng., Newton, Mass.
Edward J. McCarthy, Gen. Sales Mgr., Gamewell Co., Newton, Mass.
Timothy Regan, Insurance Appraiser, Newton, Mass.
Earl B. Smiddy, Dist. Sales Mgr., Newton, Mass.
Chas. T. Smith, Sales Eng., Gamewell Co., Newton, Mass.
Vincent C. Stanley, Comm. Firemens Relief, Newton, Mass.
Henry Walton, Fire Comm., Plymouth, Mass.
Walter W. Dow, Somerville, Mass.
Herbert C. Engberg, Somerville, Mass.
F. Edward McIntire, Mgr. F. N. McIntire, Wakefield, Mass.
Ralph F. Morrison, Watertown, Mass.
J. A. McLaughlin, Am. Fire Equip., Winchester, Mass.
J. E. MacMahon, Waterfog Sales Mgr., Worcester, Mass.
Earle G. Moulton, Worcester, Mass.
James J. Ryan, Rockwood Sprinkler Co., Worcester, Mass.
N. D. Sherwood, Rockwood Sprinkler Co., Worcester, Mass.
James E. Moloy, Fire Warden, Woburn, Mass.
A. P. Adney, Pump Engineer, Battle Creek, Mich.
Harry J. Callahan, Chief Training School, Detroit, Mich.
H. D. Elwood, Gen. Mgr. E. & B. Mfg. Co., Detroit, Mich.
H. J. Gilles, Manager, Detroit, Mich.

Angus M. Gordon, E & E Mfg. Co., Detroit, Mich.
C. T. McGraw, Secy.-Treas.-Circul.-Air Corp., Jackson, Mich.
Edward L. Rector, Asst. Chief, Grosse Pte. Park, Mich.
E. Rumsey, Chief of Apparatus, Detroit, Mich.
W. A. McDonnell, Photographer F. D., St. Louis, Mo.
Glenn T. Scott, Dist. Mgr. Am. LaFrance, Kansas City, Mo.
Francis Wornall, Director of Fire, Kansas City, Mo.
E. A. Joyner, 1st Asst. Chief, Farmville, N. C.
Thos. O. Stewart, Eureka Fire Hose Div., Charlotte, N. C.
W. E. Timmerman, Am. LaFrance Foamite Corp., Caldwell, N. J.
Ernest N. Day, Sales Mgr., Dunellen, N. J.
Andrew F. Boran, Fire Com., Elizabeth, N. J.
Frank R. Fricke, Fire Com., Elizabeth, N. J.
William E. McGlynn, Com., Kearny, N. J.
Dennis F. Carey, Fire Com., Newark, N. J.
Joseph P. Hackett, Supt. of Repairs, Newark, N. J.
John B. Keenan, Director Public Safety, Newark, N. J.
George F. Lynch, Deputy Chief, Newark, N. J.
J. C. Maloney, Pyrene Mfg. Co., Newark, N. J.
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R. M. Cadman, Supt. Eng. Dept. S.R.O. N. J., Red Bank, N. J.
Frank J. Apgar, Captain, Trenton, N. J.
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John F. Martyn, Asst. Chief, Jamestown, N. Y.
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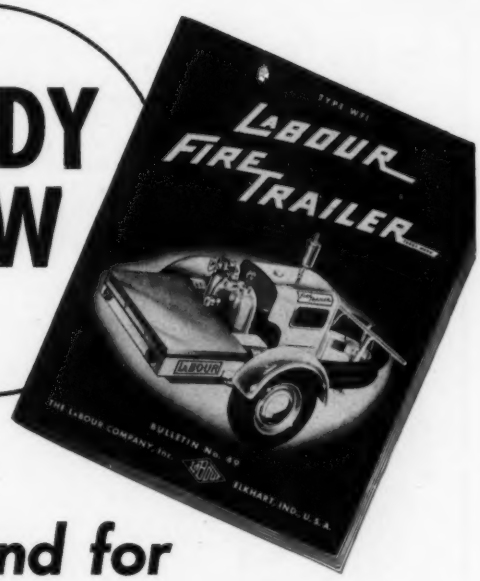
Thomas M. Burton, Vice Pres. D. B. Smith Co., Utica, N. Y.
I. H. Case, Fire Engineering, New York, N. Y.
Harry G. Cavanagh, A. D. T., New York, N. Y.
S. S. Davenport, Res. Eng., New York, N. Y.
T. F. Dougherty, Retired Chief, New York, N. Y.
Carl Dressen, Batt. Chief, New York, N. Y.
Joseph H. Green, Gen. Manager, New York, N. Y.
R. C. Engels, Dist. Rep., New York, N. Y.
L. W. Hutchins, New York, N. Y.
Arthur Myers, Atlas Fire Equip. Co., New York, N. Y.
Wm. S. Riordan, Retired Chief Dispatcher, New York, N. Y.
Fred Shepperd, Mgr. I.A.F. C., New York, N. Y.
Irvin Shulsinger, Serg. Int. Municipal Signal Assn., New York, N. Y.
Timothy G. Stillman, New York, N. Y.
John J. Waldron, Deputy, New York, N. Y.
Alden W. Welch, Sec. The Am. City, New York, N. Y.
Emmet H. Byrne, Batt. Chief, Cleveland, Ohio
Chas. G. Harris, Supt. Signal System, Cleveland, Ohio
Robert C. Anderson, Vice Pres. Buckeye Iron & Brass Wks., Dayton, Ohio
Emil, Jaros, Dayton, Ohio
Wm. O. Scheinitz, Pres., Dayton, Ohio
S. G. Langher, Pres. Akron Brass Mfg. Co., Wooster, Ohio
J. M. Love, Gen. Mgr., Akron Brass Mfg. Co., Wooster, Ohio
J. C. Schellin, Pres. Wooster Brass, Wooster, Ohio
Lester Stevenson, Seagrave Corp., Columbus, Ohio
G. N. Pa, Capt. Drill Master, Tulsa, Okla.
H. C. Johnson, Asst. Chief, Portland, Ore.
Ray F. Tillman, Chief Drill Master, Portland, Ore.
Dr. Chas. Bauer, Fire Prevention Eng., Allentown, Pa.
Edgar A. Spotz, Asst. Chief, Hummelstown, Pa.
Edward A. Mellin, Jr., Asst. Chief, Jermyn, Pa.
Ephraim J. Freedman, Lieut., Philadelphia, Pa.
John J. King, Capt., Philadelphia, Pa.
Francis J. Mason, Lieut., Philadelphia, Pa.
Eugene Reuter, Lieut., Philadelphia, Pa.
Frank O. Rose, Capt., Philadelphia, Pa.
R. A. Cornwall, Pittsburgh, Pa.
George J. Schill, Master Mechanic, Pittsburgh, Pa.
R. A. Phillips, Pittsburgh, Pa.
G. Seth, Asst. Mgr. M.S.A., Pittsburgh, Pa.
Charles L. Booth, Dept. Chief, East Greenwich, R. I.
W. E. Scolander, Cranston, R. I.
Lester H. Brenner, Rept. Peter Pirsch & Sons Co., Memphis, Tenn.
Howard Dunlap, Mechanic, Memphis, Tenn.
B. S. Mallongly, Batt. Chief, Nashville, Tenn.
Bob Simmons, Sales Rep. Am. LaFrance, Paris, Tenn.
J. J. Blackstone, Pres. Texas Firemen Asso., Mineral Wells, Texas
A. B. Busboy, Sales Rep. Am. LaFrance, Dallas, Texas
B. W. Joyner, Manager E.F.H.D., Dallas, Texas
Peter Pirsch, Kenosha, Wis.
H. F. Johnson, Ast. Chief, Milwaukee, Wis.
Edward E. Wischer, Asst. Chief, Milwaukee, Wis.
J. G. Trembley, Branch Manager, Montreal, Canada
W. J. Scott, Fire Marshall, Toronto, Canada
H. B. Weed, Vice Pres. Pyrene Mfg. Co., Toronto, Can.

Convention Repercussions

By our Buff Reporter

They sure did dish out the excitement in Boston. Starting with the kitchen blaze that came while the horde of hungry delegates and friends were dining at the Pemberton Inn, Hull (Mass.), as guests of the Gamewell Company: continuing with the alarm for a burning auto in front of the Hotel Statler, and winding up with the blast when the phosphorus bomb was exploded on Boston Common, on the 21st, the Brothers were continually being reminded about

READY NOW



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Packed With Trailer Pumper Facts

If you are considering the purchase of auxiliary fire equipment, or if you are responsible for fire protection facilities in outlying communities or under a defense program, you should read this bulletin. Besides illustrating and describing the LaBour Fire Trailer, Bulletin 49 outlines the conditions under which trailer pumpers are most useful and the considerations involved in their selection. A page is devoted to suggestions about water supply, including a table of dimensions for fire cisterns.

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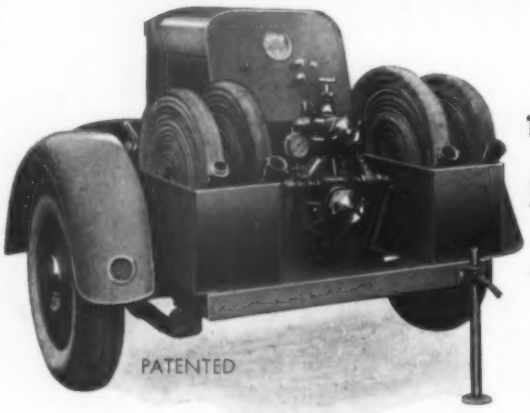
BARTON-AMERICAN TRAILER FIRE PUMPS



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All types MIDWESTERN Fire Coats are ORIGINAL; Mackinaw made assures high grade

Since Midwestern developed and introduced to fire departments the ORIGINAL WHITE STRIPED SAFETY COAT it is rapidly becoming a favorite among fire chiefs.

Today Mackinaw-made Safety Coats are being chosen for service in several Government Ordnance Plants—THERE IS A REASON—A TRIAL WILL CONVINCE YOU. Do not be misled by imitations, insist on the original.

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MIDWESTERN MANUFACTURING CO.

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their calling.

* * *

Oddity of the convention was the response of Chief Fred Kennedy of Indianapolis to an alarm of fire which damaged his own home in Indianapolis (Ind.). The chief "responded by plane" leaving Mrs. Kennedy in Boston. We dunno whether or not he got there in time to do the "overhauling" but he surely gets the hand-painted antimicasser for the long-distance response to an alarm of fire!

* * *

Although the papers reporting the Pemberton Inn fire said that "to a man the chiefs left the table and supervised its (the fire's) quenching", facts are that few did. The "buffs" and "Sparks" did in number, however. Some of the professional talent, mostly Boston Brothers, who were supervising the affair, went to work before the local Vamps got on the job. We saw one chief (we won't name him) tearing off clapboards with his bare hands. But there wasn't no excitement, except on part of villagers and Vamps, some of whom responded in formal attire as alarm came just as they were leaving to attend their own local fire department banquet.

* * *

The wayward press went slightly screwy in reporting the bomb blast exhibition on the "Commons". Stories scareheaded with adjectives like "Scores hurt" . . . "Spectators close to panic" . . . "Near-tragedy at demonstration" . . . "Clothes riddled", etc. and the slightly colored radio accounts led folks to believe the worst. Facts are that Major Brayton, who directed the demonstration and his aides, repeatedly warned spectators to get back outside the wire fence enclosure, but those injured were inside it. Prompt use of loud speakers immediately calmed the excited ones, brought the injured forward for treatment, as directed by Major Brayton. Although regrettable for its aftermath, the demonstration surely did give witnesses a dramatic portrayal of what war is and can be.

A number of Boston firemen, perched atop one of their pumpers got a scare and had skin and uniforms singed in spots. Fortunately, some manufacturers' new equipment on the field to participate in the demonstrations, was moved out of danger before the big blast although we understand LaBour, which had a trailer on the ground with hose lines stretched, lost some hose.

* * *

Climax of the Boston Common demonstration (missed by a lot of chiefs who'd dispersed after the phosphorus bomb episode) was the burning of a "fireproof" suit. An inventor came nigh to being badly burned when an asbestos suit, designed by himself, which he had donned to show how, within it, he could safely walk through fire, became ignited. Reports are that Brother Morse broke all Gipsy Rose Lee records when he shucked that burning garment (with the help of bystanders). Failure to properly fasten it up permitted fire to get under the asbestos armor.

* * *

Those Boston Auxiliary Firemen put on a grand performance in the night drill on the Department's portable fire training tower. Lot of the visiting Brothers got a swell cold from standing on the wet grass watching the work—but 'twas wuth it! Compliments to Captain Ni-

cholson instructor, and to his Boss, Chief Pope. Orchids, too, to Ben Ellis, famed Boston Buff and oldest man on the Auxiliary drill squad. He can take it.

* * *

It was the first convention we know of at which the local Buffs maintained an exhibit and worked shoulder by shoulder with the Association and local Department. A merit for the "Sparks" whose booth at the entrance of the Auditorium attracted much interest. Present, too, with his red car was that zealous Boston "Spark Rev. Michael Barry.

* * *

While we're talking about exhibits let's record these facts: This Convention broke all records for exhibits, as witnessed by these facts: Number of exhibitors 65; Value of exhibits, $185,835; exhibit space covered, 18,278 sq. ft.; Receipts from exhibitors $3,867.50 with estimated profit for Association of $3,300 to $3,400, according to hard-working Chairman of Exhibit Committee.

* * *

The banquet was just one "presentation" after another! We liked to see 'Jim' Mulchaey get that scroll, and we envied all those other lucky souls who got "Life Membership badges" 'n everything but about that time we were busy trying to get medicants for a certain chief who was scalded when a waiter spilled a pot of hot coffee into his lap.

* * *

Boy, oh boy! Wan't that "colored water" squirted by the fire boats great! We got a big kick out of the busy little 'tender' which was darting here and there like a water bug shoooting a different colored stream at every turn. 'Lookit the Irish fireboat" exclaimed one of the old school next to us, as the "midget" boat shot forth a bright emerald jet! Tell us, Chief Pope, where'd you find all that colored "fire" water?

* * *

Talk about yer fog nozzles—we thought the manufacturers were demonstrating when we got caught by a shower as we stood near the smokestack and got a bath from the whistle on the Gamewell outing. Incidentally, that old tooter worked so hard the engineers hadda phone up to the Old Man and ask him to quit leaning on the whistle cord! Guess Chief Pope and Mayor Tobin had tipped off most the boat skippers in the Bay to salute the steamer that took the crowd.

* * *

Special Constable Herbert Scott, Eastbourne (near London), England, took the convention by storm with his unscheduled talk. He was quick to tell reporters that the phosphor bomb explosion on the Commons was in no wise the fault of anyone, but was "what one must expect in a war." Said he—"Imagine this multiplied hundreds of times, and you get some idea of what the people of England are going through."

Ring to Palmer

Another presentation, which was made on the last day of the convention was a diamond ring to retiring President W. H. Palmer. The ring bore the seal of the Association, centered by a diamond, and with the name of the recipient engraved on the inside of the ring. This ring was gift of the Association to the retiring President.

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The M-S-A Streamlined FIREMAN'S HELMET

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- Long, sweeping rear brim
- Reinforced crown ridge
- Laminated bakelite construction

Every detail of this advanced Helmet clicks with your preference, for a mighty good reason—we've followed-through on your expressed desires for greater protection, greater comfort and finer appearance in the helmet of tomorrow! When we show you the Streamlined M.S.A. Fireman's Helmet, you'll see how the *longer, sweeping rear brim* provides the extra safety to neck and shoulders you've wanted against falling and flying material. You will approve the *wider sides* for better protection, that still permit placing material on your shoulders—and you'll see how the *arched, front-to-back curve of the brim* carries water smoothly away. At the top of the crown, you will notice a *heavy reinforcing ridge,* which adds to the great natural strength of the helmet's *laminated bakelite construction,* and efficiently deflects falling objects.

But, best of all, perhaps, you will enjoy the dashing smartness which modern M.S.A. *streamlining* has created—joining dress-parade style with sturdy strength! The additional construction details and complete helmet equipment are equally suited to *your* needs—let us arrange to show the members of your Department this new helmet, and, in the meantime, send you our descriptive Bulletin No. DX-5.

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The streamlined "tear drop" shields blend correctly with the modern lines of the new M.S.A. Helmet, and are available in 9 attractive styles with cut-out large numerals, bronze lettering and metal insignia, as specified. Shields are furnished in red, white and black, or any desired combination of these colors.

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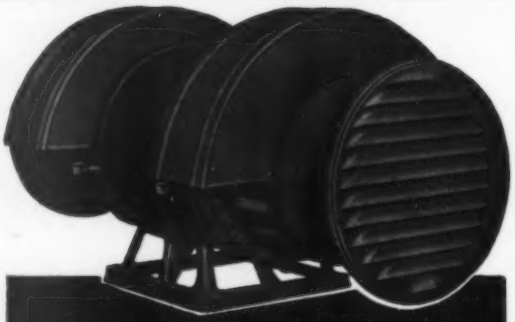

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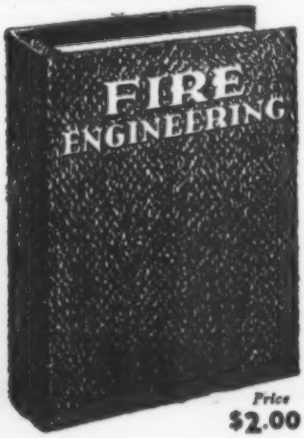

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24 W. 40th ST. NEW YORK

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of August, 1941. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are approximately correct view of the losses incurred. The figures represent losses in thousands of dollars.

Month Ending August 31	Loss in Thousands of Dollars
El Paso, Tex.—Repair shops of Tex. & Pacific R.R.	400
Decatur, Ind.—Adams Co. Infirmary	50
Alexandria, La.—Business district damaged	80
Quincy, Mass.—Main planing mill of Blacker & Shepard Lumber Co. destroyed	125
Klamath, Ore.—Ewauna Box Co., inc. 6,000,000 feet of pine lumber	100
Hot Springs, Va.—Bryant Meplec & Bros. Garage and store	50
San Antonio, Tex.—Southern Pacific Railroad yards	50
Montreal, Que.—Paul Gervais & Bros. grain store	50
San Francisco, Cal.—Plant of Tiedemann & Harris Packers	170
Pilot Town, La.—Bathhouse, pump house, power plant at Delta National Wild Life Refuge destroyed	50
Alexandria, La.—Walgreen Drug Store damaged	60
Vermilion, Alta.—Vermilion flour and grist mill destroyed	50
Houston, Tex.—Weingarten's grocery store	50
Clifton, N. J.—Clifton Paper Board Company damaged	50
Chicago, Ill.—Henry McNair Stable destroyed	50
Bloomingdale, N. J.—Kitchell Lumber Co. yards destroyed	65
Sydney, N. S.—Chappell, Ltd., lumber warehouse and adj. residential section	325
Los Angeles, Cal.—Alpine Street elementary school destroyed	50
Chicago, Ill.—Austin Merchants Bldg. occupied by stores, destroyed	100
Robbinsville, N. J.—Hendrickson & Dilatush Farm Supply Co. destroyed	65
Paterson, N. J.—Bertsch & Vance Coal & Lumber Co. storage bldgs. destroyed	160
Winston-Salem, N. C.—Hangar at Winston-Salem airport & 15 planes destroyed	50
Bergoo, W. Va.—Pardee & Curtain Lumber Co. sawmill destroyed	80
Perryton, Tex.—Perryton Wheat Growers' Elevator destroyed	50
Blasdell, N. Y.—Abrasives Manufacturing plant of Exelon Co. destroyed	80
Guthrie, Okla.—Sunray Oil Co. well damaged	50
Marpole, B. C.—Burke Lumber Co. sawmill damaged	80
Fort Smith, Ark.—Offices and planing mill of Mechanics Mill Work Co. damaged	65
Missoula, Mont.—Automobiles and implements included in three bldgs. of Western Mont. Fair destroyed	80
Kokomo, Ind.—Standard Packing Co. plant damaged	50
Springfield, Mass.—New England Wrecking Co. damaged	50
Bridgeport, Conn.—Jennings Bros. Manufacturing Co. damaged	65
Shelby, Mont.—Johnson Building in business district destroyed	50
Hot Springs, Ark.—The Wright Braughton Lumber Co. plant	65
Porto Costa, Calif.—Warehouse, two fish reduction plants, barge, tugboat, whaling ship, seven freight cars, two tank cars	900
Chicago, Ill.—Barn belonging to George E. Brown destroyed	50
Fairhaven, Mass.—Morton street terminal of Whaling Bus Co. damaged	50
Middletown, Conn.—Nine bldgs. containing 19 business firms and 10 apartments destroyed	400
Seattle, Wash.—Lumber Supply & Warehouse Company damaged	80
Seattle, Wash.—Blackstone Lumber Company completely destroyed	250

Fire College Instructor: "What happens when a body is immersed in water?"

Fireman: "The telephone rings."

Convention Dates

Sept. 12-13—NEW JERSEY STATE FIREMEN'S ASSOCIATION. Annual Meeting, Atlantic City, N. J. Secretary, Evan F. Benners, R. 602, 24 Branford Place, Newark, N. J.
Sept. 13-14—OHIO STATE VOLUNTEER FIREMEN'S ASSOCIATION—Annual Convention, Kent, Ohio. Secretary, Sidney Wellock, 2976 S. Main Street, Akron, Ohio.
Sept. 15-17—OREGON STATE FIREMEN'S ASSOCIATION. Annual Meeting, Bend, Ore.
Sept. 22-25 — CALIFORNIA STATE FIREMEN'S ASSOCIATION. 19th Annual Convention, Huntington Hotel, Pasadena, Cal. Secretary, H. E. Strasser, 2046 Oregon Ave., Long Beach, Cal.
Sept. 23-25—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS AND LOUISIANA FIREMEN'S ASSOCIATION. Annual Convention, Monroe, La. Secretary-Treasurer, J. Ray Pence, Stillwater, Okla.
Sept. 24-26—TENNESSEE FIREMEN'S ASSOCIATION. Annual Convention, Johnson City, Tenn. Secretary, Joe J. Martin, Nashville, Tenn.
Sept. 25-27—MONTANA FIRE SCHOOL. Annual Meeting, Polson, Mont. Secretary, D. E. Moser, Bozeman, Mont.
Sept. 29-Oct. 2—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. 46th Annual Meeting, Hotel Jefferson, St. Louis, Mo. Secretary, Irving Shulsinger, New York City.
Oct. 2, 1941—WALWORTH COUNTY FIRE OFFICER'S ASSOCIATION. 11th Annual Meeting. Secretary-Treasurer, C. A. Foster, Lake Geneva, Wis.
Oct. 7-9, 1941—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Greenburg, Pa. Secretary, Charles E. Clark, Box 217, Wayne, Pa.
Oct. 14-16, 1941—ILLINOIS FIREMEN'S ASSOCIATION, Inc. Annual Convention, Bloomington, Ill. Secretary, Roy W. Alsip, Champaign, Ill.
Oct. 21-23, 1941—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Norfolk, Neb. Secretary-Treasurer, Louis A. Novak, Box 788, Norfolk, Neb.

Deputy Chief Carlson to Retire

Deputy Chief Albert B. Carlson of the New York City Fire Department, who has been in command of the Marine Division since January 1, 1938, will retire from service on September 16.

Chief Carlson joined the department on November 1, 1917, and since then has received six separate citations for conspicuous service and was awarded the Bennett medal.

He was promoted to lieutenant in 1925, captain in 1928, chief of battalion in 1934 and then to deputy chief. He is in command of ten fireboats, including the "Fire Fighter."

Three Die in Magnesium Plant Accident

Three men died and two were injured as 200 pounds of magnesium burst into searing flames at a new $12,000,000 magnesium plant near San Jose, Calif.

F. B. I. agents described the fire as an industrial accident and said sabotage was not involved. Damage to the plant was slight.

The three victims were working on experimental equipment for loading powdered magnesium into a retort for heating, the final process before it is cooled into a mass. The powdered form burns at a low temperature in a brilliant, hot flame.

As the magnesium poured down a funnel into the retort, it suddenly burst ablaze, setting fire to the men's clothing and the movable wooden platform on which they were working. Other workers pulled the men from the platform and tore off their burning clothes.

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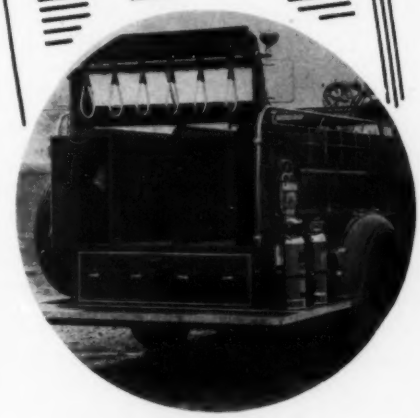

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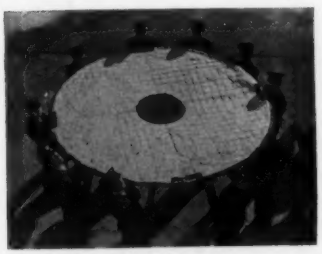

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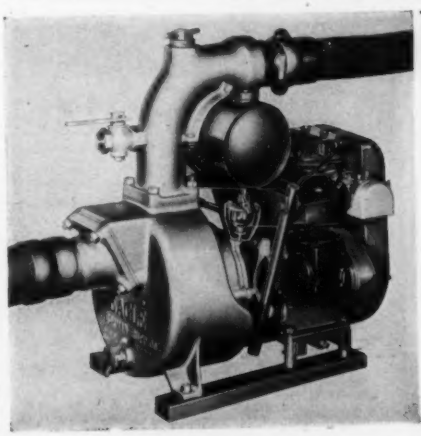

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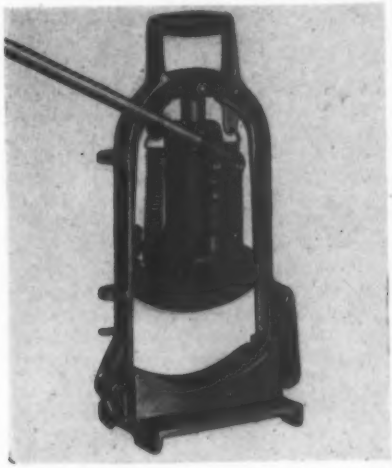

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North Carolina Firemen Meet

Resolutions condemning any person or group who in any way attempts to slow up the National defense program were adopted by the North Carolina Firemen's Association at the final session of the annual convention of that body held in Asheville, N. C., August 6. Delegates attending also went on record as offering their services for national defense to Governor Len G. Broughton, or President Roosevelt.

R. A. Joyner, of Farmville, was elected President of the Association, succeeding D. E. Shuford of Hickory. Charles L. Burkett of Salisbury was named Vice-President; John L. Miller of Concord, Secretary; A. B. Horney of High Point, Treasurer and Albert W. Brinson of New Bern, statistician.

Memorial services for members of the Association who have died within the past year, and a talk by William B. Umstead of Raleigh, former congressman, featured the closing session.

Members of the Association who died during the past year are as follows: J. H. Kesler, East Spencer; J. C. George, Winston-Salem; R. J. Everest, Salisbury; Thedora E. Best, Chapel Hill; Fred Helms, Albemarle; George T. Middleton, Kannapolis; William H. Teer, Durham; J. R. Johnson, Winston-Salem; William T. Twilford, Farmville; R. C. Lewallen, Asheboro; W. F. Richardson, New Bern; Stephen T. Farrish, Ayden; Sanford J. Myers, Mount Airy; Ernest B. Bain, Raleigh; Levi W. Kennerly, High Point; S. F. Alligood, Washington; G. A. Jenkins, Winston-Salem; M. D. Defee, Sanford; C. N. Brewer, Wilmington; Clyde A. Hildebrand, Canton; G. B. Hoblitzell, Andrews; J. E. Murdock, Weaverville; E. P. McClure, Graham; C. R. Jordan, Elizabethtown; R. A. Foster, Portsmouth, Va.; and A. A. Gary of Hickory.

D. G. SPENCER

Payment for Out-of-Town Runs

At Henderson, N. C., an agreement has been reached between the city and the county covering fire protection by the city fire department to suburban areas and elsewhere within reach. It is provided that the county will pay the city $1,500 for answering not more than thirty alarms a year outside the city limits.

Solves Pressure Problems

A recent addition to the fire fighting field is the Pressurator, a small gauge which is attached to the pumper, and which shows the pressure at the nozzle on a line, irrespective of the length of line, or the elevation of the nozzle. The device is placed on the outlet of a pumper, and has a connection to which the hose line is attached.

The Pressurator has within it a small venturi meter which records the flow of water through the Pressurator. Having the size of the nozzle, as well as the flow in gallons per minute, the nozzle pressure can be determined. This is just what the Pressurator does. It registers on a dial the pressure at a given size nozzle for the flow of water passing through it.

Thus the operator at the pump, if he wishes to maintain a certain pressure at a nozzle, adjusts the speed of the pump so as to have the dial record the desired nozzle pressure, and that is all there is to it.

The new Pressurator is very much smaller and more compact than the original model. It is readily adapted to any or all pumpers, and the hazard of freezing has been eliminated.

The Pressurator is manufactured by Morey and Jones, Ltd., 922 South Hemlock Street, Los Angeles, Cal.

Halligan Deputy Commissioner

Deputy Chief Hugh A. Halligan, of the New York Fire Department, was recently appointed by Commissioner Patrick Walsh to the position of First Deputy Fire Commissioner, to fill the vacancy caused by the resignation of Arthur L. Marvin, who returned to his post of First Assistant Corporation Counsel.

Deputy Fire Commissioner Halligan

Commissioner Halligan joined the Fire Department on June 16, 1916. He became a Lieutenant on April 16, 1922, and a Captain on February 1, 1924, and was assigned to a fireboat. He was promoted to Battalion Chief on June 1, 1929, and to Division Commander on October 1, 1934. The Commissioner, who is one of the youngest senior chief officers in the New York Department, is forty-seven years of age.

Firemen Protest Changes in Two Platoon Bill

Six hundred Massachusetts firemen from all over the state recently jammed the State House in opposition to amendments proposed by Governor Saltonstall to a legislative measure enabling cities and towns to establish a two-platoon system for permanent firemen.

The bill, passed by both branches of the Legislature, would permit municipalities by vote of their local City Council or Selectmen to set up the two-platoon system for their fire departments.

Governor Saltonstall returned the bill to the House and Senate recommending that the bill be amended to make it non-effective until the emergency declared by the President has been ended, and also that the acceptance of the bill be left up to referendum vote of the local com-

munities. A referendum is provided for in such instances by the state constitution.

Detroit Firemen Battle Four-Day Fire

The Detroit Fire Department were called upon to do battle with a flaming gasoline tanker in the Rouge River, a tributary of the Detroit River, at 6:45 P.M., August 8th. The Transiter, a tanker of Canadian registry had just left its dock for Montreal with 15,000 barrels of high test gasoline aboard. Just as the vessel was about to pass through the Wabash Railway bridge, an explosion rocked the Diesel powered tanker, sending a sheet of flame high into the air. Almost immediately, the vessel belched smoke and flame all along its 200 foot length. The crew lost little time in abandoning the flaming vessel, still several were burned, two seriously. Two other members lost their lives by drowning. The heroic captain stayed with his vessel long enough to see it safely through the important Railway trestle and to beach it in one of the few places along the river's bank not lined with gasoline storage tanks.

The fire finally burned itself out after some 100 hours. During this time, eight land companies and the powerful fire tug, the John Kendall, poured tons of cooling water on the flaming vessel. There was no extinguishing the fire but the powerful fireboat streams delivering some 10,000 gallons per minute cooled the tanks sufficiently to prevent their rupture and the spilling of flaming gasoline on the River.

While the fireboat (Engine 16) had some 100 hours of fire service, almost half of the 54 engine companies in the Detroit Department worked upwards of 8 hours each on the flaming hulk. Traffic was suspended on the River, thereby holding up delivery of stocks of raw materials to the huge Ford River Rouge plant.

The cause has not been definitely determined but it is believed that a spark ignited gasoline fumes. The Federal Bureau of Investigation, after a preliminary investigation, ruled out the possibility of sabotage.

JOSEPH A. KLEEFUSS

Instructor Wanted

The Special Fire Defense Committee of the Rockland County Volunteer Firemen's Association has an opening for a competent instructor to organize and conduct a fire training school in Rockland County. It is the plan of the committee to establish a complete fire training school, starting from scratch. Information on the position of instructor may be secured from Charles M. Fales, Chairman, Special Fire Defense Committee, Rockland County Volunteer Firemen's Association, Municipal Building, Haverstraw, N. Y.

Fire Department Concert Aids British Fire Service

At a concert given recently by the Vancouver Fire Department Band, assisted by various local artists, to aid the London Fire Service Benevolent Fund, from whom a request for assistance had been received, the sum of $3,229 was raised.

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OPERATES DIRECTLY AT THE PUMP
INDICATES CONTINUOUSLY, at the pressure source, NOZZLE PRESSURES, regardless of length of hose, condition of hose, or elevation of nozzle.
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Fire Fatalities Heaviest Among Children

Figures released by the National Board of Fire Underwriters show conclusively that fires take their greatest toll among children of tender ages.

The fact was developed in the course of the Board's study of a five-year period of the latest vital statistics available from all parts of the United States. Under five is the dangerous age by a ratio of almost three to one over any other like period of life. The deaths from fire take a drop in the five to nine-year age group. Fatalities are lowest between the ages of ten to fourteen and not much higher at any later age.

In the average year fire takes the lives of 1,673 children under five years of age, but only 591 of the five to nine-year olds die in this way. When people reach the age of twenty to twenty-four, fire takes toll of 410 of their number in an average twelve months period. The significance of the fire hazard to the young is shown by comparing these deaths to the fatalities from all causes of accidents: Under five years of age, twenty-five per cent of all accidental fatalities are caused by fire. From twenty to twenty-four years of age, however, the deaths from fire comprise only six per cent of the total.

Facts on Lightning

Reviewing the case histories of more than 100 lightning fatalities, Dr. Ballaschi, Westinghouse engineer, has pointed out that scores of persons are injured or killed each year because they wait for storms to "blow over" instead of immediately seeking safety.

Dr. Bellaschi has studied many cases in which persons were struck. Summed up, his conclusions are that a few simple precautions would, if followed, cut down the annual lightning death toll of approximately 400 in the United States and reduce the number of injuries.

First and most important, get under a shelter as quickly as possible. Houses, barns and other buildings—the bigger the better—are good shelters. The top and sides of buildings will usually provide a better conductor path than the human body for lightning to reach the ground. When a storm threatens, keep off golf courses, suspend outdoor games, don't ride bicycles or horses and don't operate exposed machines such as tractors. Avoid shelter under trees, particularly isolated trees. Stay away from poles, masts and other exposed objects projecting skyward.

Stay in your car if an electrical storm suddenly develops while you are motoring. Dr. Gilbert D. McCann, in charge of Westinghouse lightning studies at East Pittsburgh, Pa., recently demonstrated that occupants of a car are safe when it is struck by lightning. He sat in a steel-topped sedan in the Westinghouse high voltage laboratory at Trafford, Pa., while bolts of three million volt lightning crashed repeatedly against the top and streaked harmlessly to the ground. Steel-topped buses and trains offer the same protection.

About 90 per cent of lightning casualties occur in rural districts and open spaces where the exposure hazard is greatest. Barns, farm houses and structures located on the outskirts of cities are made safer by the erection of lightning rods.

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Approximately 400 persons are killed each year by lightning and the United States Bureau of Census estimates that a person's chances of being killed are about one in 338,000.

Model Fire Protection System Saves Money

Adoption of scientific methods, good planning, acquisition of modern equipment and construction of surface water mains through heavily wooded areas have combined to give Gloucester, Mass., a model forest fire protection system that has brought a sharp reduction in fire losses. The system also has brought a marked decrease in municipal expenditures for battling forest fires which have occurred principally in the West Gloucester woods.

Spring and early Fall, almost without exception, brought costly forest fires in the wooded areas in the lower West Gloucester parish. They burned sometimes for days, were most destructive of standing timber and cost hundreds of dollars per fire for scores of men employed to extinguish them.

The situation was becoming worse, and Supt. Albert C. Labelle, who has the dual role of forest warden and city forester, decided to do something about it.

There was no water in this section except a swampy place or two that was always dry in the hot, fire season of late Spring, Summer and early Fall.

In addition to scrub oak, pine and maple trees, the area comprises brambles by the acre, the kind that make the hottest kind of fires and impedes control efforts. In addition to the brambles there are the Cape Ann ledges to contend with. These ledges have crevices in which fibres grow and dry. The fire follows the crevice along for a couple of days and then bursts out on the other side of the ledge with a new fire.

For years Gloucester's Water Department had been replacing a lot of two and three-inch pipe with larger sizes and the old pipe was going for junk. It was Superintendent Labelle's idea to reclaim some of this old pipe and use it in the area beset by forest fires. The Water Department agreed to the plan and began turning over the discarded pipe to the Forestry Department, together with the necessary valves and couplings. Consequently about four miles of pipe and forty or fifty outlets have been installed in the section where the bad fires used to occur.

That the plan has worked out is attested by the fact that there has not been a single bad fire in the protected area since the installation. In addition to the woods protection, it adds in some measure to the fire protection of the few homes in the area with water volume enough for a small line and source to replenish tanks for fire apparatus booster pumps.

Additional Firemen Asked by Youngstown Chief

Chief Michael J. Melillo of the Youngstown, Ohio, Fire Department has asked for forty-two additional firemen to keep the city from dropping lower in underwriters' rating. He asserted that the city, because of insufficient men and obsolete equipment, has been dropped to a class four rating.

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Write for the Facts

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Questions and Answers

(*Continued from page* 528)

Adding Another Line

To the Editor:

A first size engine (1,000 gallons at 160 pounds pressure) is operating a line of 2½-inch hose 300 feet long equipped with a 1½-inch nozzle. The nozzle pressure is 60 pounds, the engine pressure is 246 pounds and the discharge is 520 gallons per minute. The chief officer at the fire orders another line of the same size, length and nozzle to be attached to the pumper.

What difference will this make in the engine pressure and what will the discharge and nozzle pressures be after this is done?

M. V.

Answer:

The only accurate way to find what would happen if a second line of hose were attached to the pumper, would be to refer to a performance curve of the pump and engine, furnished by the manufacturer.

An approximation, where a centrifugal pump is employed, is to assume that the motor delivers the same power at all different engine pressures.

In this case, to find what the pumper would discharge at a given pressure, you multiply the rated capacity by the rated pressure and divide by the pressure at which you wish to find the discharge. The answer is the discharge at the desired pressure.

This approximation holds only between certain definite limits, and is very inaccurate at high or very low engine pressures.

However, working on this assumption, the problem may be solved as follows:

Assume a nozzle pressure less than the pressure where one line is employed. Then find the discharge from each 1½-inch nozzle at this pressure and add the discharges so found.

Find the engine pressure necessary to give this assumed nozzle pressure.

Multiply the rated pressure by the rated discharge and divide by the pressure at which you wish to find the discharge. If the answer, which is the discharge at this particular pressure, equals, or approximates, the total discharge from the two nozzles at the assumed nozzle pressure, then you have the performance of the pump with the two lines in operation.

Making the various assumptions as above described, we find that with a nozzle pressure of 44 pounds, discharge from each nozzle will be 442 gallons per minute. Total discharge will be 884 gallons per minute.

Solving for engine pressure we have

$$\text{E. P.} = \text{N. P.} \times (1.1 \div \text{KL})$$
$$= 44 \times (1.1 + .505 \times 6)$$
$$= 181.72 \text{ pounds engine pressure.}$$

Next find the discharge at this pressure.

$$1{,}000 \times 160 \div 181.72 = 880 \text{ gallons per minute approx.}$$

Note that this discharge is fairly close to the discharge from the two nozzles at 44 pounds pressure, which is 884 gallons per minute.

We have therefore assumed that the engine pressure will drop from 246 pounds as given in your problem, where

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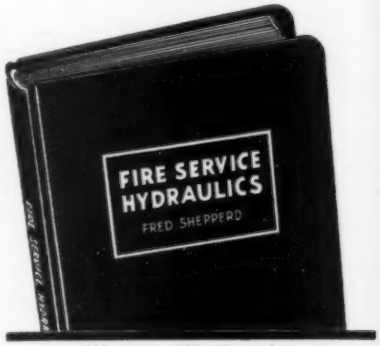

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one line is employed, to 181.72 pounds when a second identical line with ½-inch nozzle is added to the pumper.

Calculation of "K"

To the Editor:

On Page 470 of your August issue, your problem gives the value of "K" for ½-inch nozzle as .104 and for ¾-inch nozzle as .042. How do you obtain these figures? C. B.

Answer:

The value of "K" for small nozzles is found by the use of actual test figures on engine and nozzle pressures on specific layouts, and through employing the engine pressure and nozzle pressure formulas.

Suppose, for example, that we know the engine pressure, the nozzle pressure and length of line of given diameter. Then the value of "K" for a specified nozzle on this layout would be found as follows:

$$\text{E. P.} = \text{N. P.}\,(1 + \text{KL})$$

$$\frac{\text{E. P.}}{\text{N. P.}} = (1 + \text{KL})$$

$$\frac{\text{E. P.}}{\text{N. P.}} - 1 = \text{KL}$$

$$\left(\frac{\text{E. P.}}{\text{N. P.}} - 1\right) \div \text{L} = \text{K}$$

Substituting the values of engine pressure, nozzle pressure and "L" in this formula, we find the value of "K" for a given size nozzle.

Of course, the average value of "K" for several layouts must be considered rather than the individual value for a specified layout.

Discharge Constants

To the Editor:

In the August issue the following formula is given to find the discharge of hydrants (2½-inch butt and pressure known): $167 \times \sqrt{P}$.

In "Simplified Fire Department Hydraulics" the formula for the same situation is given as $.80 \times 30 \times D^2 \times \sqrt{P}$, which works down to $150 \times P$.

Why the discrepancy? Which is correct?

L. I. C.

Answer:

The discrepancy in the figures is brought about by the use of a more accurate constant in finding the discharge from a 2½-inch open butt. The coefficient in this case is .90 instead of .80 as formerly used. Thus we have been using .90 in the later work whereas .80 was employed in the earlier publication.

Salvage Methods

To the Editor:

What difference in methods would you employ in salvage operations after a fire in a high value home and in a low value tenement home? In my opinion, the same methods would be employed, that is, the fire department should try to save everything possible in each case. The home and furnishings are just as valuable to the poor man as they are to the

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The National Defense Program has caused fire departments to demand economic, efficient and enduring equipment.

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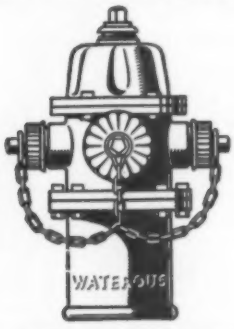
FIRE HYDRANTS



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Every detail of the Waterous Hydrant has been thoroughly proven.

Waterous Hydrants have given an excellent account of themselves through fifty-five Northwest winters. They are dependable because they are built that way. Send for catalog.

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WATEROUS COMPANY
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- Shut-Off Nozzles
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- Fire Department Extinguishers
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38 years' service in the fire field

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Prompt service - Quality products

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Send for illustrated folder on the New Elkhart Mystery Nozzle.

ELKHART BRASS MFG. CO.
ELKHART, INDIANA

wealthy man, though they might not have cost as much.

L. B. C.

Answer:

So far as we know, the same method would be followed in salvage operations in a high value home or a low value tenement house.

After all, it is the duty of the fire department to save property, as well as lives, and there would be no reason for slighting the operations because the dwelling happened to be of a poor class. I fully agree with you in your reasoning

Civil Defense Preparation

(*Continued from page* 509)

Lancaster, Penna.
Harry E. Miller, Chief

An organization has been appointed to work out details of forming a civil defense unit. We are now making a survey of available equipment.

The local unit is headed by the Chief of the Fire Department.

Watertown, Mass.
John W. O'Hearn, Chief

A civil defense unit is now being formed and drilled with present apparatus. It is going along favorably, but funds for equipment are needed. It is headed by a former fireman and World War veteran.

I believe federal funds will be necessary to carry on this work.

Birmingham, Ala.
A. Brown, Chief

A civil defense unit has just been organized in Birmingham. The President of the City Council acts as Chairman. The Safety Committee is headed by the Sheriff of the county and the Commissioner of Public Safety serves as Vice-President. The Chief and First Assistant Chief are both members of the Committee.

The water works company has no representation on the committee. I plan to suggest that they be represented at an early meeting.

Rochester, Minn.
C. E. Ginther, Chief

Nothing of importance has been done in the way of forming a civil defense unit. We have had several meetings with the state F. B. I. authorities.

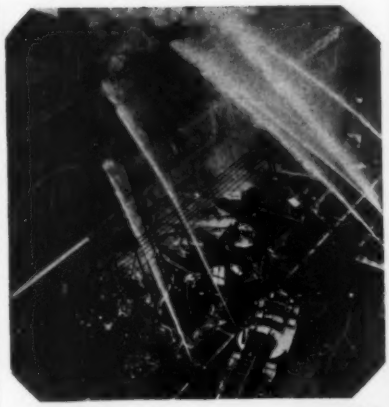
The Fire Department will cooperate in every way with any worthwhile movement.

I believe it is necessary to get the city more interested before such a unit can be set up.

Lincoln, Neb.
F. W. Donnelly, Chief

A civil defense committee, headed by the Mayor, Director of Public Safety, and the Chiefs of the Fire and Police Departments has been formed.

The program is developing rather slowly, but quite satisfactorily. Inspections have been made; instruction given to guards and night watchmen; special attention paid to the removal of fire hazards, such as old buildings, rubbish, weeds, etc. New apparatus and hose has been purchased for the Fire Department.



WHERE PRESSURE COUNTS

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30 Church Street, New York, N. Y.

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WARD LAFRANCE

Our experience gained in many years of "fire engineering" is of great value to you. We always have been alert to scientific advances. And long ago we learned that quality is essential. Today, our fire fighting equipment includes the most practical, time-tested combat features — plus many new and exclusive features. Ward LaFrance fire trucks are custom built to meet the most exacting requirements. Write today and learn how Ward LaFrance can fill your needs! Address Department "E".

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"Fire Apparatus of Quality"
ELMIRA, NEW YORK

DUPOR Combination
SMOKE MASK

Provides maximum protection to eyes — makes possible comfortable breathing. Sponge saturated with water does the trick.

FOG-PROOF GOGGLES

Outfit is equipped with famous "Nod & Shake" Goggles! Water placed next to lens keeps fog off!

Price Complete $48 per doz.

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For the past 60 years we have supplied the fire fighters of America with the finest badges they have ever worn.

We maintain a group of skilled workmen for the express purpose of making these badges. We supply them with only the finest of metal available. The badge they make for you is without doubt the best you can buy anywhere.

Recommend Braxmar to all your fellow fire fighters and wear one yourself.

C. G. Braxmar Co., 242 W. 55th St., N. Y.

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Bids Wanted, For Sale and Help Wanted, $5 per inch. Position Wanted, $2.50 per inch.

WANTED

Jobbers to sell our New Improved Morning Pride Firecoat, with Scientific designed Wing Freedom Sleeve. Write today. Morning Pride Mfg. Co., Dayton, Ohio.

Pawtucket, R. I.
Napoleon Taupier, Chief

The City Council at a recent meeting passed an ordinance creating a civil defense unit, but as yet have not organized it. The Fire Chief will be a member of that unit.

Muskegon, Mich.
Chris Smith, Chief

We recently had a meeting. The Mayors from Muskegon, Muskegon Heights and North Muskegon, together with the Fire and Police Chiefs from the same cties, were present at the meeting.

We plan to have 100 volunteer firemen and 50 volunteer policemen trained by the various department heads.

The unit is headed by a member of the American Legion.

The local program looks very good. I think we are going to have a very good setup.

Champaign, Ill.
Roy W. Alsip, Chief

A civil defense unit has been set up in our city and is headed by the Mayor.

I have divided our mercantile district into zones and have placed a fireman in charge of each zone and have made him responsible for inspections and investigations in his particular zone. I have gotten the larger wholesale establishments to put on night watchmen. We are also organizing a local emergency unit.

Gary, Ind.
Robert F. McGuire, Chief

Nothing has been done by the city towards forming a civil defense unit.

In the Fire Department we have stressed first aid and chemical fire extinguishment. All members have received instruction on explosives.

We are forming plans of organization and are training firemen as public speakers on fire prevention and extinguishment.

We are getting more new apparatus, hose, etc., and are requesting a new fire alarm system and are working in conjunction with municipal radio.

Bangor Maine
H. P. Constantine, Acting Chief

The city of Bangor is working on a civil defense program in cooperation with the State of Maine officials at Augusta. The program is just in the making so there is nothing definite on it at this time.

SEALAND TRAILER PUMPS

Sealand mobile trailers are made in 150, 250 and 500 gallon capacities. They are gasoline powered, carry 500 ft. of double jacket fire hose and can be equipped with 100 gallon booster tanks. They can be instantly attached to any private car.

THE SEALAND CORP.
SAUGATUCK CONN.

Keep Your Batteries

Battery Booster
Model 6RB84B1
110 volts, 60 cycle

Use this new G-E Battery Booster to keep your apparatus batteries in a dependable ready-to-go condition by giving them a short, periodic charge.

Sturdy, reliable, rugged, but low in price, this new Booster is tailor-made for fire departments with modern ideas about equipment maintenance. Its 40-ampere output charges a 6-volt battery IN THE TRUCK in less than two hours.

For more information, just write Section A-1589, Appliance and Merchandise Department, General Electric Company, Bridgeport, Connecticut.

GENERAL ELECTRIC

ON GUARD 1941

INDIANS ARE ONE OF BEST MEANS FOR INCENDIARY BOMB CONTROL

Equip the Indians with our No. 147 Adjustable Nozzle which throws a stream or long-distance mist spray and does a quick job in putting out the bomb and preventing little damage. Only one man needed to operate the Indian where three men are needed for the bucket-stirrup pump . . . one man to pump, one to handle the nozzle and one to carry water. Be sure you have plenty of Indian Fire Pumps.

INDIAN
FIRE PUMP EXTINGUISHERS

Furnished with polished brass tank or complete unit chrome plated or Armco Zincgrip Rust resistant.

"THEY DO A SWELL JOB"

D. B. SMITH & CO.,
Utica, N. Y.

In our department we have six INDIAN FIRE PUMPS and are highly pleased with them. Since equipping with INDIANS we have discarded our soda acid extinguishers. When called out on a fire, the first thing the firemen grab are INDIAN PUMPS and they do a swell job.

Yours very truly,
FRANK BRUCKER, Chief.

D. B. SMITH & CO., 406 Main St., Utica, N.Y.

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Roy G. Davis Company
617 E. 3rd St., Los Angeles, Cal.
The Conwhit Company, Klamath Falls, Oregon
IN CANADA: Safety Supply Co., Toronto, Montreal, Vancouver.

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SEPTEMBER, 1941

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VALVES HYDRANTS *and* PIPE LINE ACCESSORIES

A. W. W. A. HYDRANTS
Underwriters Approved

Conform to American Water Works Association specifications. Approved and listed by Underwriters' Laboratories and Associated Factory Mutuals. Well known and widely used for many years.

M & H furnishes both regular type A. W. W. A. fire hydrants and special Traffic Model — all compression type, dry top and revolving head. Special Traffic Model (shown above) is growing rapidly in popularity because it is designed to yield at the ground line under impact, due to its breakable bolts and breakable coupling on stem. Repairs then are easy, without shutting off pressure. Simply install new bolts and coupling.

M & H PRODUCTS

- Square Bottom Gate Valves
- Traffic Model Fire Hydrants
- Check Valves
- Flap Valves
- Tapping Valves
- Mud Valves
- Floor Stands
- Extension Stems
- Shear Gates
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- Flanged Fittings
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M & H VALVE AND FITTINGS COMPANY
ANNISTON, ALABAMA

Mack Type 505, heavy-duty 500-gallon triple combination pumper, now serving Rockville Center, L. I., N. Y.

IT IS A simple truth that Macks turn in performances far in advance of what is normally expected from modern fire apparatus.

Mack pumpers and trucks not only surpass the requirements of even the most exacting official tests—but show a remarkably high degree of freedom from mechanical failure in actual service.

Mack concentrates on manufacturing Mack fire apparatus in its own factories. We think we can fairly state that no other fire engine is produced under such strict supervision and to such high factor of safety margins.

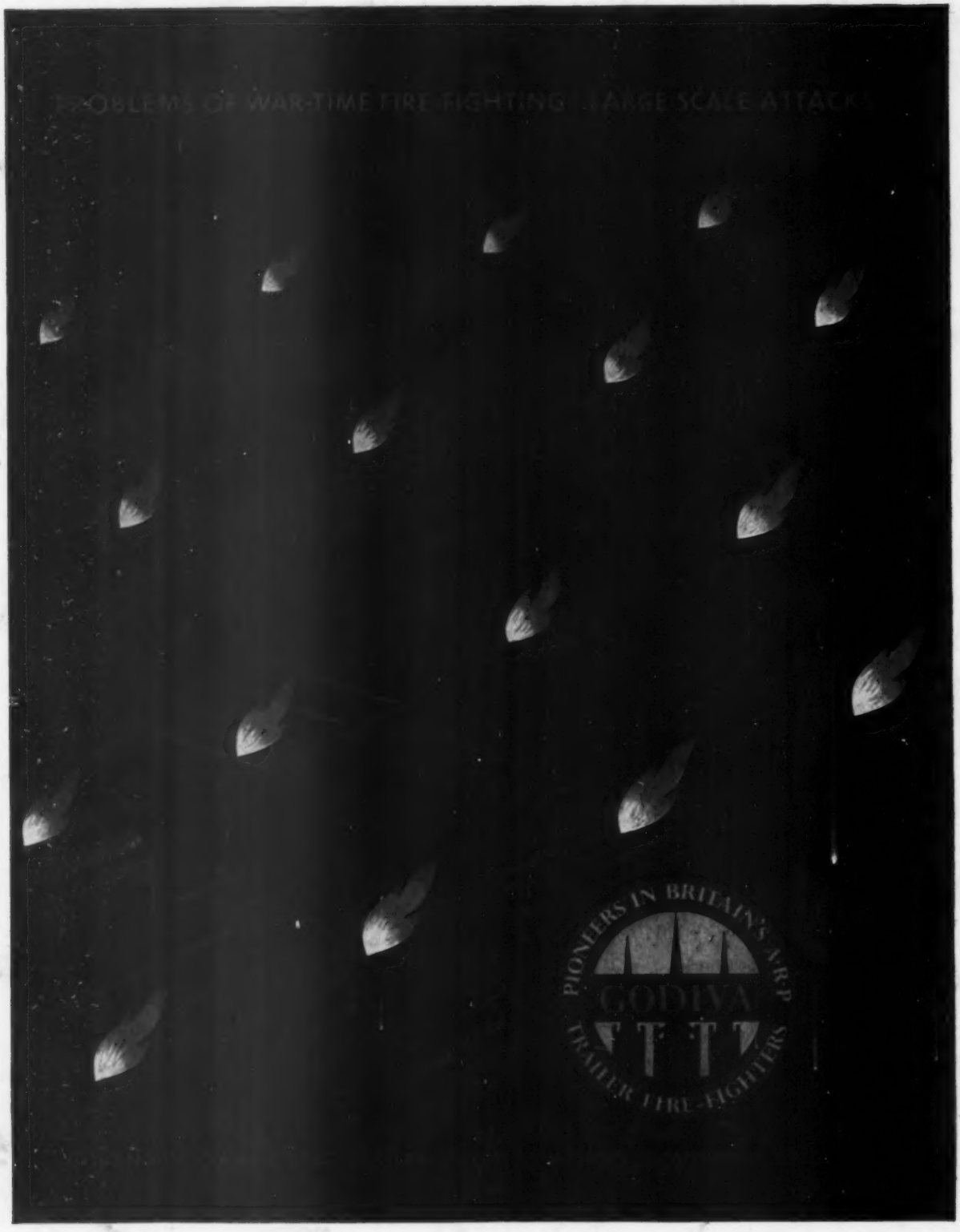
Mack has the largest resources in the fire apparatus industry. Consequently, Mack is able to maintain a large-scale laboratory research program, which helps keep Mack first in the fire-fighting field.

70 conveniently located direct factory branches provide quick, economical, efficient service for fire apparatus which bears the Mack name. Write for complete information on this superior fire apparatus—today!

MACK MANUFACTURING CORPORATION, Fire Engine Division, New York, N. Y.

The Mack Fire apparatus line includes triple and quadruple pumpers from 200 to 1500 gallon capacity, hose wagons, city service ladder trucks, squad cars—comprising 14 distinct and specialized models. Mack is proud of building the best. We invite comparison. We solicit inquiries.

Mack



This is one of a series of announcements now appearing in "Fortune" showing some aspects of Britain's fire-fighting in war-time.

The vast and efficient expansion of these defenses has been made possible only by the adoption of the trailer fire-fighter, a piece of far-sighted planning which has since carried the endorsement of every fire engineer.